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ABSTRACT

Programs for secondary and postsecondary youth, ages 15-24, in occupational programs for the handicapped or disadvantaged in North Carolina comprised the target population for this evaluative study. Procedures involved three levels of analysis for the data collected--the policy level, involving examination of existing legislation, rules, and report: administrative review via interview with state officials; and program effectiveness assessment through surveys and visitation. Data analysis involved use of descriptive statistics, especially frequency distribution, priority ranks, and percentage grouping by blocking variables. Findings and conclusions centered on the following critical issues: (1) Barriers: these concern major deficiencies--lack of understanding, lack of expertise, procedures, and specific materials, and lack of facilities and equipment; (2) Needs: sixty-five program elements were force-ranked to prioritize needs for such as counselors, work-study coordinators, tutorial services, and transportation; (3) Planning: systematic and comprehensive planning is lacking, it being particularly haphazard and fragmented at the local level; (4) Training: this critical area has yet to be addressed systematically; (5) Funding Problems: basically, no-one knows how much it costs to service special needs students; (6) Coordination and Cooperation: isolation rather than interaction characterizes the local level, with interaction usually resulting from individual initiative; (7) Policy: until recently a neglected concern, policy has benefitted from recently completed ground-level efforts; (8) Program Operations: most programs are in an early stage of development, a few being in an advanced state. (Suggested recommendations and remedies are included in a special appendix.) (CP)

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STATEWIDE ASSESSMENT/EVALUATION OF OCCUPATIONAL PROGRAMS FOR DISADVANTAGED AND HANDICAPPED STUDENTS

Prepared for

The State Advisory Council on
Vocational Education in North Carolina

by

Eric Rice

System Sciences, Inc.

20 January 1978

Final Report

CE 021 757

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PREFACE AND ACKNOWLEDGEMENT

Specifications for this research activity originated in the commitment of the State Advisory Council on Vocational Education to effective and appropriate vocational education for all students who need and/or desire such services. Project manager on behalf of the Council was Dr. Jerauld B. Wright, Research and Evaluation Consultant. The author extends special thanks to Dr. Wright for his patience, timely comments, suggestions and support during the course of the project.

The work was performed by Ms. Rose Etheridge, Mr. Jim Hughes, Mr. John Poe, Dr. Irwin Shiffer, Ms. Doris Lange and Mr. Eric Rice of the North Carolina office of System Sciences, Inc.

Grateful acknowledgement is extended to the many state and local educators who offered information, comments and insights pertaining to the study. Among these educators were approximately 110 school system level vocational planners and directors; 45 community college/technical institute vocational directors; personnel from the Winston-Salem, New Hanover, North Brunswick, Asheville and McDowell school systems; staff of Central Piedmont Community College, Haywood Technical Institute and Halifax Community College; and state level personnel from the Department of Public Instruction, the Department of Community Colleges and Technical Institutes and other state agencies.

Eric Rice
January 1978

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INTRODUCTION

Originating with the set-aside stipulations of the 1968 Amendments to the Vocational Education Act and culminating in the legislative provisions of the Education Amendments of 1976, the Education of All Handicapped Children Act, the Creech Bill and the Vocational Education Bill, the last ten years of educational policy and practice have created an awareness about, an increased emphasis upon and the establishment of the responsibility for providing successful, appropriate vocational education to all students, including all special needs students. It is particularly appropriate at this time that a North Carolina state-of-the-art assessment of vocational education for special needs populations be undertaken in order to:

1) Identify problems in developing and administering programs;
2) Quantify/prioritize programmatic needs;
3) Document program success; and
4) Provide information upon which to formulate policy.

The following objectives were stipulated as goals of the research activity:

1) Create a data base of information, organized around the most cogent issues relative to providing vocational education for disadvantaged and handicapped students in secondary and post secondary (2-year level) public education in North Carolina;
2) Quantify this information in a fashion that permits the data to be used as a basis for developing future educational policy as well as evaluating current education practice; and
3) Describe and quantify program arrangements that appear to characterize the more effective programs as well as identify factors that serve to facilitate or inhibit the provision of vocational education for special needs populations.

It is noted that frequent reference is made to the following laws throughout this report:

a) Vocational Education Amendments of 1976 (P.L. 94-482); b) Education of All Handicapped Children Act (P.L.94-142); c) Rehabilitation Act of 1973 (P.L. 93-112); d) Comprehensive Employment and Training, Act of 1972; e) Vocational Education Act (N.C., H.B. 492; S.B. 226); and f) Act to Provide For a System of Educational Opportunities for All Children Requiring Special Education (N.C. H.B. 824; Creech).

METHODS AND PROCEDURES

Approach

The target populations for this study were programs serving secondary and post secondary youth, ages 15-24, who were handicapped or disadvantaged.

Three levels of analysis were employed to conduct the assessment: policy, administrative and programmatic. Policy analysis involved examining existing legislation, rules, regulations and reports of governmental agencies with responsibility for vocationally related education. Topics of consideration included goals, definitions, assumptions, philosophies and statements of expected outcomes. Reviewed documents included 50 federal laws and regulations, 35 state documents and 25 public reports and studies, each of which related to providing vocational education to special needs populations.

Administrative review was accomplished by interviewing approximately 20 state officials within various agencies which have responsibility for providing vocationally related services to special needs students. Questions of priorities, coordination/cooperation, needs, barriers and funding were of particular concern.

Program effectiveness was assessed at the local level through statewide surveys supplemented by site visitation. Questionnaires were designed for and mailed to the vocational planner or director in each local education agency and each community college/technical institute in North Carolina. Completed questionnaires were received from 110 of the 145 local education agencies for a return rate of 76%; completed questionnaires were received from 45 of the 57 community colleges/technical institutes for a return rate of 79%. There is no reason to believe that the responding sample was biased or that the nonrespondents would have altered the overall findings.

Survey data were supplemented by on-site interviews at six LEA programs and three CC/TI programs, each nominated as an exemplary program by state officials. Program operations and training needs were questions of major concern during the site visits.

Copies of the instruments used in each research phase are included in Appendix A of this report.

Data Analysis

Data analysis involved use of descriptive statistics, especially frequency distributions, priority ranks and percentages. Grouping by blocking variables permitted comparison of responses on questions of barriers, cooperation, funding and program operations. Blocking variables were derived from a stratification plan that included geographic location, e.g., coastal, piedmont, mountain; size of school district, e.g., small or less than 2500, medium or 2501 to 7000, large or above 7000; and type of organization, e.g., community college, technical institute, municipal school system, county school system. Such comparisons did reveal limited differences in the needs, perspectives and approaches among different institutional groupings.

Certain program evaluation procedures, such as comparisons of expenditures, program services and program outcomes, were originally planned for inclusion in the activity. These, however, were not employed because clearance to obtain outcome data and related financial information was denied by the State Data Plan Committee.

Organization of Report

Findings and conclusions are organized around the critical issues which emerged during the study including: (a) barriers, (b) needs, (c) planning, (d) training, (e) funding, (f) coordination and cooperation, (g) policy and (h) program operations. This document presents findings and conclusions pertaining to each issue in the above stated order. Within each issue, information includes conclusions or general characteristics which offer some synthesis and interpretation of the findings. In addition to these general characteristics, the discussion of each issue includes presentation of study findings from each of the three levels of analysis. Findings include secondary and post secondary information, but the discussion distinguishes between the two. Since the study

concentrated on vocational education for special needs populations at the secondary level, within some issues, post secondary data are limited to anecdotal notes derived through interviews. Sources of all interview and administrative data are not identified in order to maintain stipulated confidentiality of sources and information.

Tables are presented in order to depict findings and demonstrate quantitative bases from which the characterizations were derived. Wherever possible, data were quantified in order to provide an empirical basis for conclusions.

The discussion of critical issues does not include recommendations or suggested remedies concerning conclusions and characterizations. However, suggested recommendations and remedies are included in a special Appendix B at the conclusion of this report.

General Nature of Findings

In general, study findings are supportive of the efforts of the State Department of Public Instruction (SDPI) and the Department of Community Colleges and Technical Institutes (CC/TI) even though data suggest that efforts have been limited. SDPI efforts have concentrated on insuring compliance with Federal guidelines and providing limited programmatic assistance. The limited assistance, which has been effective, has included aid in identifying special needs students, workshops for teachers and securing funds. CC/TI efforts have been concentrated on insuring compliance with Federal guidelines in order to secure funds.

SDPI and CC/TI efforts have been very effective, although narrow in scope. They reflect the respective organizational structures and have been well received in the field. Study findings, however, suggest that additional attention will be needed to successfully serve the entire range of special needs populations.

A number of recent developments are particularly encouraging. These activities include (a) SDPI, Division of Vocational Education planning revisions and efforts; (b) new funding formulas promulgated by SDPI; (c) recent growing attention to needed teacher skills and competencies; and (d) increasing efforts of communication and coordination among divisions and agencies.

BARRIERS

A logical beginning step in conducting a needs assessment designed to produce information upon which to base policy and action is to identify and rank barriers which inhibit the provision of effective vocational education to special needs populations. Barriers, based on study findings, were characterized as:

1) Falling within three general categories regardless of source or level of information;

2) Differentially perceived at secondary and post secondary levels and between serving disadvantaged and handicapped students. However, there were few differences in perception of barriers by geographic area or type of school system although some differences by size of school system did emerge. Likewise, there were some differences in the way teachers and administrators perceived barriers; and

3) Implying that a comprehensive porgrammatic effort has not yet been initiated at the state level to systematically serve special needs students in vocational education.

Information on inhibitory barriers was derived not only from the mail surveys, but also from a complementary SSI project, "Mainstreaming the Handicapped in Preparatory Occupational Education Programs in North Carolina," and from participation in the 1977 Summer Conference for vocational education teachers of the disadvantaged and handicapped.

The three general categories into which barriers fell were identical for disadvantaged and handicapped students and were as follows:

1) <u>Lack of understanding</u> ... at all levels about what must be, can be and is being done to provide vocational education to special needs students;

2) Lack of expertise, procedures and specific materials ... at all levels that inhibit effective training; and

3) Lack of facilities and equipment ... at all levels to meet the particular needs of special needs students.

Barriers to the provision of services was a recurring issue throughout the project. While the barriers became more differentiated according to special need and more specific according to level of schooling, the broad categories remained consistent. "Lack of understanding" was echoed and substantiated at each level. Within state agencies, this barrier was voiced as a concern that related personnel in other agencies or other divisions within their own agency did not comprehend their particular program or mission. Further, state personnel were certain that the detail of efforts or program were not completely understood by field personnel. Field personnel substantiated this barrier, although they transformed it into a need rather than a barrier. Specifically, local directors/planners expressed the need for direction and concise, understandable, legal information about programmatic responsibilities with regard to special needs students.

The barriers termed "lack of expertise, procedures and specific materials" and the "lack of facilities and equipment" surfaced throughout the study as particularly critical barriers to the effective provision of services. Survey questionnaire data from the statewide assessment and the mainstreaming studies served to reinforce the general barrier findings as well as to further specify and differentiate barrier information. Table 1, "Priority Ranking of Barriers Inhibiting Vocational Education for Secondary Special Needs Populations," depicts these findings by order of priority for secondary school personnel. The lack of appropriately trained personnel emerged as the greatest barrier to successful vocational education for both disadvantaged and handicapped students. After this item, the priority of barriers varied significantly between disadvantaged and handicapped populations. High priority barriers pertaining to the disadvantaged identified during the statewide assessment emphasized lack of appropriate training for and time of personnel, student family

Table 1

PRIORITY RANKING OF BARRIERS INHIBITING VOCATIONAL EDUCATION FOR SECONDARY SPECIAL NEEDS POPULATIONS

SECONDARY BARRIERS: HANDICAPPED	PRIORITY RANKING	SECONDARY BARRIERS: DISADVANTAGED
Properly trained persons to work with handicapped students in occupational programs are not presently available.	1	Properly trained persons to work with disadvantaged students in occupational programs are not presently available.
Existing facilities are not adequate to accommodate the needs of handicapped students.	2	Instructors lack training to know capabilities of these students.
Class size is too large for the individualized instruction which is essential for adequate training.	3	Family aspirations or conditions which limit the disadvantaged students are difficult to alter.
Lack of resources in small schools to offer options is a barrier.	4	Lack of training and understanding of guidance personnel for this type of student is a barrier in that social counseling is needed.
There is inadequate funding available to purchase needed equipment or materials.	5	Teachers do not have time for tasks such as supervising on-the-job training or developing competency-based instructional programs.
Lack of training and understanding of guidance personnel for this type of student is a barrier in that special counseling is needed.	6	Federal and state guidelines restrict local flexibility in using funds to meet local needs.
Federal and state guidelines restrict local flexibility in using funds to meet local needs.	7	Occupational teacher allotments are inadequate, resulting in shortage of qualified teachers.
Occupational teacher allotments are inadequate, resulting in a shortage of qualified teachers.	8	There is inadequate time for occupational education directors, counselors and instructors to be involved in program planning and development.
Instructors lack training to know the capabilities of these students.	9	Adequate support personnel, e.g., aides, tutors and so forth, to handle classrooms serving special needs students are not available.
Work areas are not designed for handicapped students, including equipment that is not appropriate for these students and may not be adaptable.	10	Deficiencies in assessment instruments and availability of qualified testers lead to incorrect diagnosis and/or placement.

characteristics and restrictive guidelines. High priority barriers pertaining to the handicapped identified in the mainstreaming assessment emphasized lack of resources such as facilities, equipment and class size as well as the lack of appropriate training for personnel. If additional money outlay were based on these barriers, expenditures for meeting the needs of the disadvantaged would be oriented more toward people resources than would be expenditures for meeting the needs of the handicapped.

Barriers at the post secondary level were derived only through survey questionnaire data. The results of the survey are depicted in Tables 2 and 3 for disadvantaged and handicapped students respectively. As noted in the tables, local directors perceived different barriers to providing vocational education for disadvantaged and handicapped students even though the overall post secondary emphasis was related to funding. The most important barriers to serving the disadvantaged included lack of support personnel, class size, money to purchase equipment, family aspirations and time for program planning and development. The most important barriers to serving the handicapped included lack of funds to purchase materials, inadequate facilities, large class size, lack of appropriately trained teachers and lack of necessary support personnel.

Comparison of barriers as perceived by technical institute personnel versus community college personnel revealed few differences in the way barriers were perceived. The only important differences were the great concern about instructors lacking training to devise materials and/or diagnose and prescribe instruction for disadvantaged students in the community college and the relative less concern for support personnel such as aides and tutors than in the technical institutes. Perhaps technical institutes could benefit from the expertise gained by many community colleges in administering their ongoing academic tutoring programs.

When barriers to serving the disadvantaged were analyzed by geographic region, type of school system and size of school system, few differences emerged, indicating that the responses on perception of barriers were consistent across all administrators as grouped on blocking variables.

Table 2

PRIORITY RANKING OF BARRIERS TO PROVISION OF

POST SECONDARY VOCATIONAL EDUCATION TO DISADVANTAGED STUDENTS

POST SECONDARY BARRIERS: DISADVANTAGED	INSTITUTIONS					
	Total N=43		Technical Institutes		Community Colleges	
	Rank	Mean	Rank	Mean	Rank	Mean
Adequate support personnel such as aides, tutors and counselors are not available.	1	4.60	1	4.26	6	5.19
There are inadequate funds available to purchase needed equipment or materials including remedial and motivational multi-sensory materials.	2	4.74	2	4.56	3	5.06
Class size is too large to provide the individualized instruction which is needed.	2	4.74	4	4.70	2	4.81
Family aspirations or conditions which limit the disadvantaged student are difficult to alter.	4	5.23	3	4.67	9	6.19
There is inadequate time for occupational education directors, guidance counselors, and teachers to be involved in program planning and development.	5	5.37	6	5.52	5	5.13
Teachers do not have time for tasks such as supervising on-the-job training or developing competency-based instructional programs.	6	5.44	5	5.46	3	5.06
Instructors lack training to devise materials and/or diagnose and prescribe instruction for this group of students.	7	5.73	9	6.39	1	4.56
Properly trained persons to work with disadvantaged students in occupational programs are not presently available.	8	6.00	7	6.33	7	5.44
Deficiencies in assessment instruments and the availability of qualified testers lead to incorrect diagnoses and/or placement.	9	6.26	10	6.70	8	5.50
Federal and state guidelines restrict local flexibility in using funds to meet local needs.	10	6.51	8	6.37	10	6.75

Table 3

PRIORITY RANKING OF BARRIERS TO PROVISION OF

POST SECONDARY VOCATIONAL EDUCATION TO HANDICAPPED STUDENTS

POST SECONDARY BARRIERS: HANDICAPPED	INSTITUTIONS					
	Total N=43		Technical Institutes		Community Colleges	
	Rank	Mean	Rank	Mean	Rank	Mean
Inadequate funding available to purchase needed equipment or materials including remedial and motivational multi-sensory materials and safety devices.	1	3.72	1	3.85	1	3.50
Properly trained persons to work with handicapped students in occupational programs are not presently available.	2	4.42	2	4.44	2	4.38
Adequate support personnel, e.g., qualified aides, turors and so forth, to handle classrooms serving exceptional students are not available.	3	4.77	3	4.57	3	4.81
Class size is too large for the individualized instruction which is essential for adequate training.	4	5.12	5	5.07	4	5.19
Existing facilities are not adequate to accommodate the needs of handicapped students.	5	5.17	5	4.85	7	5.69
Work areas not designed for handicapped students, including equipment, safety precautions and access.	6	5.26	6	5.15	5	5.44
Instructors lack training to devise materials and/or diagncse and prescribe instruction for this group of students.	7	5.81	7	5.96	6	5.56
Federal and state guidelines restrict local flexibility in using funds to meet local needs.	8	6.09	8	5.07	8	6.13
Lack of training and understanding of guidance personnel for this type of student is a barrier in that special counseling is needed.	9	6.74	9	7.07	9	6.19
Teacher and/or regular student attitude is a barrier.	10	8.16	10	7.82	10	8.25

Differences that did emerge reflected the perspective of different size systems. Barrier comparisons according to the size of school systems are presented in Table 4, "Barriers To Serving Secondary Disadvantaged Students by Size of School System."

As depicted in the table, there were several differences in the perception of barriers according to the size of school system. For example, the two major barriers for large systems--lack of instructor training to recognize student capabilities and limiting family aspirations--were significantly more potent for large, mostly urban systems than for other size systems or all systems combined. This finding follows logically from the nature of urban education where teachers and students are no longer necessarily residents of the same community and where the "culture of poverty" is particularly potent.

Restrictive federal and state guidelines was a more potent barrier in middle-sized school systems. These systems frequently do not have federal aid coordinators and usually require vocational directors or planners to assume multiple responsibilities.

In small systems, items concerning teacher time and resources to purchase appropriate equipment were significantly more important than such items in other size systems or in all systems combined. This barrier reflects the difficulties resulting from smaller enrollments and smaller tax bases each of which contributes to a smaller amount of state dollars and more difficulty in securing local matching funds.

There were several barriers that were significantly less important in certain size systems than other systems. The three most noteworthy "less important" barriers were the lack of instructor training to recognize student capabilities in small systems, the lack of funds for staff development in medium size systems, and the lack of staff time in large systems. In each instance, these barriers were of much lower priority in the mentioned systems than in other sized systems or all systems combined.

Table 4

BARRIERS TO SERVING SECONDARY DISADVANTAGED STUDENTS

BY SIZE OF SCHOOL SYSTEM

SECONDARY BARRIERS TO SERVING THE DISADVANTAGED:	Size of School System			
	Total	Small	Medium	Large
1. Properly trained persons to work with students not available.	1	1	2	3
2. Instructors lack training to know capabilities of these students.	2	10+	4	1*
3. Family aspirations which limit students difficult to alter.	3	8	8	2*
4. Lack of funds for staff development.	4	3	10+	4
5. Teachers do not have time for tasks like on-the-job or competency-based training.	5	1*	3	11+
6. Federal and state guidelines restrict local flexibility in meeting local needs.	6	4	1*	10+
7. Occupational allotments are inadequate resulting in teacher shortages.	7	7	5	6
8. Inadequate time for instructors, counselors and directors to be involved in planning and development.	8	5	7	7
9. Inadequate support personnel available, e.g., aides, tutors and so forth.	9	11	6	8
10. Deficiencies in instruments and lack of qualified testers lead to incorrect diagnoses.	10	13	11	5
11. Lack of resources in small schools for offerings matching student interests.	11	8	12	9
12. Class size is too large for individualized instruction, necessary for success.	12	14	9	14
13. Lack of funds for staff development.	13	12	13	13
14. There is inadequate funding available to purchase needed equipment and materials.	14	6*	15	15
15. Disadvantaged students often need more time to complete assignments.	15	15	14	12

* Means are significantly different from means of other systems on this barrier. In these instances, barriers were much more potent.

\+ Means significantly different from means of other systems on this barriers. In these instances, barriers were significantly less potent.

Unfortunately, barrier information on serving the handicapped at the secondary level could not be compared by size of system, geographic location or type of school district because the information was derived through a different data gathering technique.

Barrier information was also collected through administrator site interviews and the summer vocational workshop for teachers. This additional information was revealing because it included student characteristics and administrator problems in the list. For example, the site visit interviews revealed that administrators perceive student attitude to be a major barrier. More specifically, the lack of self-motivation, family conflict and instability and drop-out proneness were viewed as especially critical. Additional local difficulties were registered concerning staff expectations, proper diagnosis and the lack of coordination between secondary and post secondary training programs.

Teacher identification of barriers was accomplished through use of the nominal group process with instructors who attended the 1977 summer conference for vocational teachers of the disadvantaged and handicapped. Identified barriers focused less on matters of funding and facilities and more on program components. The list highlights social and affective program components such as attitudes, apathy and support. The ten most potent barriers, according to instructors, are:

1) Student apathy and indifference in acquiring academic and employment skills;
2) Developing a satisfactory program of training for disadvantaged and handicapped;
3) Lack of parental support and involvement;
4) Lack of administrators' interest and knowledge;
5) Lack of adequate facilities;
6) Negative opinion/attitude toward handicapped and disadvantaged students and program;
7) Lack of sufficient identification and diagnosis;
8) Inadequately trained personnel;
9) Other teachers' understanding of the programs; and
10) Biases and prejudices of general public toward disadvantaged and handicapped.

Barrier information consistently fell into the three general categories and was somewhat differentiated by disadvantagement or handicap, level of school and size of system. Still, the most striking thing about the barrier data was the relative undifferentiation of the information. With few exceptions, the majority of barrier rankings fell close together; specifically, priority rankings of 12 of the 15 barriers fell between 6 and 9 on a scale of 15 with 8 falling between 6.5 and 7.75. By comparison, CC/TI data revealed that post secondary barriers were equally undifferentiated with 10 barriers grouped within two points (4.5 to 6.5) for handicapped barriers and 7 ranked within two points for handicapped (4.75 to 6.75). Comparison on blocking variables crystalized rankings very little with only large systems demonstrating more overall agreement on items.

This relative undifferentiation could obtain from failure to group on appropriate blocking variables or from a lack of consistency of existing barriers from system to system and institution to institution throughout North Carolina. However, a more plausible explanation for the lack of consensus among directors/planners about which barriers are most potent in inhibiting provision of services to special needs students is the lack of a comprehensive programmatic initiative at the state level within secondary or post secondary programs. While SDPI has had a specialist responsible for special needs students and has made considerable strides in meeting the needs of target populations, the overall initiative has not been one of a systematic programmatic effort. Additional, more comprehensive efforts are necessary to combine outcome planning; to identify the universe of need; to facilitate accessing of alternative and community resources; to provide comprehensive administrator and teacher staff development; to promote systematic program evaluation; to conduct extensive curriculum development; to arrange for formal coordination and cooperation with other agencies and divisions; and to integrate special needs programming into the established vocational and program areas.

The situation in the Department of Community Colleges and Technical Institutes is now more extreme by virtue of the organizational structure and mission of the department. State level assistance has been necessarily restricted to matters of funding and compliance although survey evidence suggests this stance should be reevaluated in the future.

NEEDS

The question of needs, or the translation of barriers into program elements, was addressed during the administrative review and the program assessment. Findings concerning questions of need suggested the following characterizations:

1) Demonstrating a fairly high degree of consensus among respondents with regard to needs for serving both disadvantaged and handicapped students. Responses of most secondary respondents were similar, as were responses of most post secondary respondents. Slight variations were noted on several blocking variables;

2) The most critical needs demonstrate some difference in perspective between secondary and post secondary programs; and

3) The most critical needs provide program direction for state agencies.

Sixty-five program elements, grouped within seven program components, were reviewed by local directors/planners. The elements were force-ranked within program components in order to prioritize need. Results of this process for secondary level disadvantaged, secondary level handicapped, post secondary level disadvantaged and post secondary level handicapped are presented in Tables 5, 6, 7 and 8.

The data depicted in these tables suggest some differences in the preferred approach of local directors to serving disadvantaged and handicapped students. For example, at the post secondary level, a remedial reading specialist, minority cultural materials, student financial assistance and a work study coordinator were judged to be considerably more critical for disadvantaged students than for handicapped students. Similiarly, task analysis of occupations, accessing community resources and structural modifications were significantly more important for post secondary handicapped students than for post secondary disadvantaged students.

Table 5

PRIORITIZATION OF NEEDS FOR SERVING SECONDARY DISADVANTAGED STUDENTS

Items of Need	Total		Geographic Location						Size of System					
			Coastal		Piedmont		Mountains		Small		Medium		Large	
	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT ONE: PROGRAM SUPPORT SERVICES														
Guidance and Counseling	1	2.95	2	3.35	1	2.76	1	2.50	1	2.92	2	3.32	1	2.67
Diagnostic and Evaluation Services	2	3.38	1	3.11	2	3.71	2	3.22	2	4.08	1	2.82	2	2.94
Parents/Family Counseling	3	5.12	3	5.54	3	4.95	3	4.61	3	4.80	5	5.74	3	4.18
Job Placement Coordinator	4	5.45	5	5.81	4	5.03	5	5.61	6	6.44	4	5.68	4	4.64
Psychological Testing	5	5.81	4	5.65	7	6.05	4	5.56	4	5.52	3	5.59	7	6.42
Work-Study Coordinator	6	6.19	6	6.32	5	5.74	8	6.78	8	6.92	6	5.88	5	6.24
Tutoring Services	7	6.30	7	6.84	6	6.00	6	5.83	5	6.28	7	6.44	6	6.36
Home/Study Coordinator	8	6.87	8	7.11	8	6.24	9	7.72	6	6.44	8	7.38	8	6.88
Student Financial Assistance	9	7.77	9	7.65	10	8.42	7	6.67	9	7.56	10	8.35	9	7.58
Clerical Support	10	8.35	12	8.95	9	7.68	11	8.56	10	8.12	9	7.97	12	9.18
Transportation Services	11	9.04	10	8.08	11	9.08	10	8.50	11	9.12	11	9.09	10	7.88
Contract for Special Services	12	9.35	13	9.54	12	9.18	13	9.33	13	10.20	13	9.21	11	9.25
Staff Travel	12	9.35	11	8.86	13	9.92	12	9.17	12	9.68	12	9.18	13	9.58
COMPONENT TWO: INSTRUCTIONAL PERSONNEL														
Regular Voc-Ed Staff	1	2.51	1	2.19	1	2.61	2	2.94	1	2.52	1	2.62	1	2.45
Remedial Reading Specialist	2	3.30	3	3.89	2	3.16	1	2.56	2	3.28	2	3.32	2	3.48
Regular Instructional Staff	3	3.62	2	3.00	3	3.87	5	4.39	3	3.52	4	3.94	2	3.48
Curriculum Specialist	4	4.22	3	3.89	4	4.16	6	5.00	5	4.36	5	4.38	4	4.06
Remedial Math Specialist	5	4.28	6	4.76	5	4.32	3	3.22	4	3.92	7	4.44	5	4.55
Teacher Aides	6	4.59	5	4.65	6	4.87	4	4.17	6	5.20	6	4.41	6	4.58
Media Specialist	7	5.56	7	5.49	7	5.61	7	5.61	7	5.96	3	5.74	7	5.24
COMPONENT THREE: INSTRUCTIONAL MATERIALS, SUPPLIES AND EQUIPMENT														
Individualized Instructional Materials	1	3.97	1	3.89	1	3.58	3	4.94	3	4.28	2	3.79	1	3.58
Remedial Materials	2	4.01	2	4.38	2	3.76	1	3.78	2	4.08	1	3.68	2	4.67
Tools and Equipment	3	5.32	3	5.24	5	5.92	2	4.22	1	3.76	5	6.12	4	6.12
Audio-Visual Materials	4	5.55	4	5.89	4	5.08	4	5.83	5	6.36	4	5.71	3	4.94
Raw Materials	5	5.72	5	6.32	3	4.84	5	6.33	4	6.00	3	5.12	5	6.36
Teaching Games/Working Models	6	6.94	9	7.46	6	6.47	7	6.83	9	8.24	6	6.21	6	6.42
Task Analysis of Occupations	7	7.04	8	6.81	7	7.11	9	7.39	7	7.30	8	7.41	7	6.73
Field Trips	8	7.16	6	6.38	8	7.21	12	8.67	8	7.24	10	7.56	8	6.91
Routine Classroom Materials	9	7.35	9	6.51	9	8.18	8	7.33	6	7.16	7	7.32	9	7.76
Printed Materials	10	7.98	10	8.16	10	8.47	6	6.56	12	8.56	9	7.44	10	8.42
Maintenance/Repair of Equipment	11	8.99	11	9.14	11	9.08	11	8.50	11	8.44	11	9.68	13	9.24
Furniture/Finishings	12	9.10	12	9.35	12	9.39	10	7.94	10	8.28	12	10.12	11	9.06
Minority Culture Materials	13	9.74	13	10.05	13	9.92	13	8.72	13	9.64	13	10.82	12	9.15

Table 5 (Continued)

PRIORITIZATION OF NEEDS FOR SERVING SECONDARY DISADVANTAGED STUDENTS

Items of Need	Total		Geographic Location						Size of System					
			Coastal		Piedmont		Mountains		Small		Medium		Large	
	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT FOUR: INSTRUCTION-RELATED NEEDS														
Identification of Students	1	1.84	1	2.00	1	2.00	1	1.17	1	1.96	1	1.74	1	1.79
Release Time for Planning	2	2.94	2	2.86	2	2.89	2	3.17	2	3.28	2	2.76	2	2.94
Release Time for Student Conferences	3	3.39	3	3.38	3	3.45	3	3.28	3	3.76	3	3.32	3	3.21
Technical Assistance for Student Prescriptions	4	3.85	4	4.00	4	3.47	4	3.78	3	3.76	4	4.15	4	3.48
Teacher Clerical Support	5	4.83	5	4.73	5	4.89	5	4.89	5	4.68	5	4.47	5	5.45
Additional Employment Period	6	5.35	6	5.32	6	5.32	6	5.50	6	5.32	6	5.41	6	5.79
Substitute Teacher Pay	7	6.02	7	5.54	7	6.47	7	6.06	7	5.64	7	6.38	7	6.12
COMPONENT FIVE: ADMINISTRATION AND SUPERVISION														
Program Planning/Development	1	3.20	1	3.54	1	3.03	1	2.89	1	2.84	1	3.26	1	3.52
Program Administration	2	5.19	3	5.03	2	5.08	4	5.78	2	4.68	2	4.47	4	6.12
Program Evaluation and Research	3	5.61	2	4.70	3	5.84	8	7.00	3	5.64	3	4.79	6	6.61
Staff Supervision	4	6.23	4	5.51	5	6.53	10	7.06	5	6.40	4	5.65	8	6.88
Community/Employer Surveys	5	6.48	5	6.22	7	7.13	3	5.67	7	6.84	8	6.97	3	6.03
Accessing Community Resources	6	6.51	6	6.68	4	6.03	11	7.17	10	7.72	5	6.29	2	6.00
Interagency Coordination	7	6.87	8	6.97	5	6.53	12	7.39	9	7.24	6	6.68	9	7.00
Advisory Committee Work	8	7.03	11	7.32	11	7.45	2	5.56	8	7.00	9	7.29	9	7.00
Community/Employer Referral	9	7.06	7	6.92	10	7.32	5	6.83	6	6.68	10	7.59	7	6.70
Follow-Up Survey	10	7.10	9	7.14	8	7.24	7	6.72	11	7.80	7	6.79	11	7.09
Community/Employer Visitation	11	7.13	10	7.16	8	7.24	5	6.83	4	5.96	11	8.97	5	6.33
Statistical Services	12	8.45	12	9.19	12	8.42	8	7.00	12	8.20	12	9.12	12	8.21
COMPONENT SIX: STAFF DEVELOPMENT														
Teacher In-Service	1	1.65	1	1.59	1	1.76	1	1.50	1	1.48	1	1.50	1	1.97
Needs Assessment	2	2.77	3	2.97	2	2.68	2	2.56	3	3.36	2	2.79	2	2.39
Administrator In-Service	3	3.05	4	3.03	3	3.13	3	2.94	2	2.76	4	3.24	3	3.18
Program Visitation	4	3.24	2	2.92	4	3.32	4	3.72	4	3.92	3	3.03	4	3.30
Attendance at Professional Meetings	5	4.16	5	4.22	5	4.13	5	4.11	5	4.00	5	4.41	5	4.15
COMPONENT SEVEN: FACILITIES														
Shop/Lab Space	1	2.85	1	2.62	2	3.18	1	2.61	1	2.92	1	3.09	1	2.70
Classroom Space	2	3.11	2	3.27	2	3.18	1	2.61	3	3.32	3	3.35	2	2.79
Learning Lab	3	3.22	2	3.27	1	3.00	3	3.56	2	3.16	2	3.32	3	3.24
Curriculum Lab	4	4.32	4	4.32	4	4.08	5	4.83	4	4.60	4	4.09	4	4.45
Structural Modifications	5	5.15	6	5.30	5	5.21	4	4.72	5	4.84	6	5.26	6	5.42
Facilities Maintenance	6	5.33	7	5.32	6	5.44	7	5.33	7	5.44	5	5.09	7	5.52
Model Environments	7	5.34	5	5.24	7	5.61	6	5.11	6	5.16	7	5.65	5	5.39
Office Space	8	6.43	8	6.24	8	6.89	8	6.96	8	6.96	8	6.26	8	6.39

Table 6

PRIORITIZATION OF NEEDS FOR SERVING SECONDARY HANDICAPPED STUDENTS

Items of Need	Total		Geographic Location						Size of System					
			Coastal		Piedmont		Mountains		Small		Medium		Large	
	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT ONE: PROGRAM SUPPORT SERVICES														
Diagnostic and Evaluation Services	1	3.14	1	3.03	1	3.28	1	3.44	3	3.92	1	3.27	1	2.30
Guidance and Counseling	2	3.55	2	3.47	2	3.72	2	3.75	1	3.08	2	3.89	2	3.53
Parents/Family Counseling	3	4.24	3	4.64	3	4.23	3	3.88	2	3.81	3	5.05	3	3.60
Psychological Testing	4	5.06	4	4.83	6	5.69	4	4.69	4	4.65	4	5.41	4	5.00
Home/School Coordinator	5	6.01	6	6.78	4	5.56	5	6.13	5	4.81	5	6.68	6	6.23
Job Placement Coordinator	6	6.29	5	6.25	5	5.67	8	8.69	7	6.69	7	6.81	5	5.30
Tutoring Services	7	6.77	7	6.92	8	6.74	6	7.38	6	6.58	8	6.89	7	6.80
Work/Study Coordinator	8	6.90	8	7.06	7	6.51	7	8.38	8	6.92	6	6.73	8	7.10
Transportation Services	9	8.18	9	8.03	10	8.44	11	9.00	12	8.54	11	8.35	9	7.67
Student Financial Assistance	10	8.25	10	8.22	10	8.44	10	8.88	9	7.65	12	8.59	10	8.33
Contract for Special Services	11	8.37	11	8.56	10	8.44	9	8.81	11	8.12	10	8.27	11	8.70
Clerical Support	12	8.42	13	9.08	9	7.72	12	9.69	9	7.65	9	8.22	12	9.33
Staff Travel	13	9.29	12	8.72	13	9.92	13	10.19	13	8.85	13	8.84	13	10.23
COMPONENT TWO: INSTRUCTIONAL PERSONNEL														
Regular Voc-Ed Staff	1	2.65	1	2.33	1	2.92	1	3.00	1	2.38	1	2.78	1	2.61
Remedial Reading Specialist	2	3.53	4	4.17	2	3.49	2	3.44	2	3.42	2	3.62	2	3.50
Regular Instructional Staff	3	3.66	2	3.03	3	3.87	6	5.00	3	3.65	2	3.62	3	3.70
Curriculum Specialist	4	4.06	3	3.97	4	4.05	5	4.75	4	4.12	4	3.95	4	4.17
Teacher Aides	5	4.29	5	4.44	5	4.28	4	4.50	6	4.23	5	4.30	5	4.33
Remedial Math Specialist	6	4.46	6	4.58	6	4.64	3	4.31	4	4.12	6	4.73	6	4.43
Media Specialist	7	5.26	7	5.58	7	5.36	7	6.19	7	5.69	7	5.08	7	5.10
COMPONENT THREE: INSTRUCTIONAL MATERIALS, SUPPLIES AND EQUIPMENT														
Individual Instructional Materials	1	3.54	1	3.72	1	3.00	4	5.38	1	3.50	1	3.68	1	3.54
Remedial Materials	2	4.16	2	4.44	2	4.28	1	3.69	2	3.58	2	4.30	2	4.16
Audio-Visual Materials	3	5.35	4	6.06	4	5.21	3	4.81	4	5.27	4	5.62	3	5.35
Raw Materials	4	5.44	5	6.11	3	4.90	5	5.94	5	5.77	3	5.14	4	5.53
Tools and Equipment	5	5.51	3	5.69	6	6.31	2	3.81	3	4.54	5	5.73	5	5.51
Task Analysis of Occupations	6	6.41	9	7.19	5	6.13	6	6.19	7	6.58	7	6.65	6	6.41
Games/Models	7	6.49	8	6.89	7	6.59	7	6.81	10	7.23	6	6.24	7	6.49
Field Trips	8	7.26	7	6.56	9	8.00	10	7.94	9	7.15	10	7.68	8	7.26
Routine Classroom Materials	9	7.34	6	6.47	8	7.90	12	8.88	6	6.35	8	7.14	9	7.34
Printed Materials	10	7.82	10	7.83	10	8.18	9	7.88	8	7.08	9	7.30	10	7.82
Maintenance/Repair of Equipment	11	8.73	11	9.08	11	8.79	13	9.25	11	7.81	11	9.03	11	8.73
Furniture/Finishings	12	8.85	12	9.36	12	9.05	8	7.63	12	7.88	12	9.24	12	8.85
Minority Culture Materials	13	9.57	13	9.86	13	10.05	11	8.56	13	8.81	13	10.38	13	9.57

SYSTEM SCIENCES, INC.

Table 6 (Continued)

PRIORITIZATION OF NEEDS FOR SERVING SECONDARY HANDICAPPED STUDENTS

Items of Need	Total		Geographic Location						Size of System					
			Coastal		Piedmont		Mountains		Small		Medium		Large	
	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT FOUR: INSTRUCTIONAL RELATED NEEDS														
Identification of Students	1	1.92	1	1.94	1	1.95	1	1.88	1	2.12	1	1.97	1	1.70
Release Time for Planning	2	2.84	2	2.89	2	2.77	2	3.25	2	2.42	2	2.84	2	2.77
Release Time for Student Conferences	3	3.35	3	3.42	3	3.44	4	3.69	4	3.50	3	3.38	3	3.20
Assistance to Prepare Prescriptions	4	3.61	4	3.38	4	3.69	3	3.38	3	3.19	4	4.19	4	3.27
Teacher/Clerical Support	5	4.65	5	4.69	5	4.79	5	4.81	5	4.54	5	4.30	5	5.17
Additional Employment Period	6	5.14	6	5.28	6	5.21	6	5.31	6	4.81	6	4.89	6	5.73
Substitute Teacher Pay	7	5.85	7	5.56	7	6.36	7	6.00	7	5.27	7	6.14	7	6.00
COMPONENT FIVE: ADMINISTRATION AND SUPERVISION														
Program Planning and Development	1	3.12	1	3.53	1	3.15	1	2.50	1	2.19	1	3.38	1	3.60
Program Administration	2	4.94	3	4.83	2	5.00	3	5.63	2	4.39	2	4.51	3	5.93
Program Evaluation and Research	3	5.38	2	4.50	4	5.97	8	6.56	3	5.23	3	4.62	5	6.43
Accessing Community Resources	4	6.20	5	6.61	3	5.74	10	7.19	11	6.92	5	6.03	2	5.80
Staff Supervision	5	6.25	4	5.75	5	6.67	9	7.13	7	6.27	4	5.59	9	7.03
Interagency Coordination	6	6.54	8	6.83	6	6.82	4	6.00	8	6.65	7	6.68	4	6.27
Community/Employer Surveys	6	6.54	6	6.69	8	7.03	2	4.38	5	6.15	8	6.81	8	6.53
Community/Employer Referral	8	6.77	7	6.72	7	6.90	11	7.50	9	6.73	9	7.05	7	6.47
Follow-Up Survey	9	6.82	9	7.14	10	7.13	6	6.19	10	6.81	6	6.65	9	7.03
Advisory Committee Work	10	6.96	11	7.31	11	7.21	7	6.44	5	6.15	10	7.38	11	7.13
Community/Employer Visitation	11	7.08	10	7.25	9	7.05	12	7.63	4	6.12	11	8.27	5	6.43
Statistical Services	12	8.28	12	9.36	12	8.51	5	6.13	12	7.69	12	8.81	12	8.13
COMPONENT SIX: STAFF DEVELOPMENT														
Teacher In-Service	1	1.63	1	1.67	1	1.77	1	1.50	1	1.35	1	1.51	1	2.03
Needs Assessment	2	2.76	2	2.92	2	2.64	2	3.06	3	3.12	3	2.78	2	2.43
Program Visitation	3	2.95	2	2.92	3	2.69	4	4.00	4	3.31	2	2.38	4	3.33
Administrator In-Service	4	3.08	4	3.08	4	3.21	3	3.13	2	2.65	4	3.30	3	3.17
Professional Meetings	5	4.03	5	4.19	5	4.00	5	4.25	5	3.65	5	4.24	5	4.10
COMPONENT SEVEN: FACILITIES														
Shop/Lab Space	1	2.68	1	2.53	1	3.03	1	2.50	1	2.31	1	2.92	1	2.70
Learning Lab	2	3.16	2	3.39	2	3.13	2	3.13	2	2.85	2	3.35	2	3.20
Classroom Space	3	3.48	3	3.42	3	3.67	3	3.81	4	3.81	3	3.51	3	3.27
Curriculum Lab	4	4.23	4	4.39	4	4.21	5	4.44	5	3.96	4	4.11	4	4.60
Structural Modifications	5	4.44	6	5.03	5	4.31	4	4.00	3	3.69	6	4.81	5	4.63
Facilities Maintenance	6	5.00	5	4.81	7	5.49	6	4.88	7	5.15	5	4.68	6	5.07
Model Environments	7	5.16	7	5.39	6	5.28	7	5.25	6	4.77	7	5.11	7	5.57
Office Space	8	6.55	8	6.72	8	6.56	8	6.94	8	6.81	8	6.27	8	6.67

SYSTEM SCIENCES, INC.

Table 7

PRIORITIZATION OF NEEDS FOR SERVING POST SECONDARY DISADVANTAGED STUDENTS

POST SECONDARY DISADVANTAGED NEEDS: COMPONENTS AND ELEMENTS	INSTITUTIONS					
	Total N=43		Technical Institutes N=27		Community Colleges N=16	
	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT ONE: PROGRAM SUPPORT SERVICES						
1. Guidance and Counseling	1	2.70	1	2.48	2	3.06
2. Diagnostic and Evaluation Services	2	3.67	2	4.30	1	2.63
3. Student Financial Assistance	3	4.12	3	4.37	3	3.69
4. Tutoring Services	4	5.02	4	5.48	4	4.25
5. Transportation for Students	5	6.26	5	5.96	8	6.75
6. Job Placement Coordinator	6	6.42	6	6.96	5	5.50
7. Psychological Testing	7	7.02	9	7.81	6	5.69
8. Work Study Coordinator	8	7.16	8	7.56	7	6.50
9. Parent/Family Counseling	9	7.23	7	7.33	9	7.06
10. Home/School Coordinator	10	8.12	11	8.22	10	7.94
11. Clerical Support	11	8.70	10	8.04	12	9.81
12. Contract for Special Services	12	8.86	13	9.30	11	8.12
13. Staff Travel	13	9.23	12	8.63	13	10.25
COMPONENT TWO: INSTRUCTIONAL PERSONNEL						
1. Remedial Reading Specialist	1	2.40	1	2.52	1	2.18
2. Regular Voc-Ed Instructional Staff	2	3.33	3	3.63	2	2.81
3. Remedial Math Specialist	3	3.37	2	3.48	4	3.88
4. Regular Instructional Staff	4	3.67	4	3.74	3	3.56
5. Curriculum Specialist	5	5.65	6	6.15	6	4.81
6. Media Specialist	6	5.72	5	5.81	7	5.56
7. Teacher Aides	7	5.93	7	6.74	5	4.56
COMPONENT THREE: INSTRUCTION MATERIALS, SUPPLIES & EQUIPMENT						
1. Remedial Materials	1	4.30	3	4.67	1	3.69
2. Individualized Instructional Materials	2	4.35	1	4.59	2	4.00
3. Tools and Equipment	3	5.33	6	6.04	3	4.13
4. Task Analysis	4	5.44	4	5.41	4	5.50
5. Minority Culture Materials	5	5.91	1	4.59	11	8.13
6. Audio-Visual Materials	6	6.02	5	5.63	7	6.63
7. Raw Materials	7	6.12	7	6.07	6	6.19
8. Routine Classroom Materials	8	6.67	8	7.15	5	5.88
9. Teaching Games/Models	9	7.49	9	7.63	8	7.25
10. Field Trips	10	7.70	10	7.78	9	7.56
11. Printed Materials	11	8.33	11	8.52	10	8.00
12. Maintenance and Repair of Equipment	12	8.79	13	9.74	12	8.88
13. Furniture and Furnishings	13	9.56	12	9.41	13	9.81

POST SECONDARY DISADVANTAGED NEEDS: COMPONENTS AND ELEMENTS	INSTITUTIONS					
	Total N=43		Technical Institutes N=27		Community Colleges N=16	
	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT FOUR: INSTRUCTIONAL RELATED NEEDS						
1. Identification of Students	1	1.77	1	1.96	1	1.44
2. Release Time for Planning	2	2.91	2	3.00	2	2.75
3. Technical Assistance for Student Prescriptions	3	3.47	4	3.44	3	3.50
4. Release Time for Student Conferences	3	3.47	3	3.26	4	3.81
5. Teacher Clerical Support	5	4.63	5	4.52	5	4.81
6. Additional Period of Employment	6	5.49	6	5.63	6	5.25
7. Substitute Teacher Pay	7	6.14	7	6.04	7	6.31
COMPONENT FIVE: ADMINISTRATION AND SUPERVISION						
1. Program Planning and Development	1	3.49	1	3.77	1	3.00
2. Program Evaluation and Research	2	5.07	2	5.15	3	4.94
3. Program Administration	3	5.63	5	6.33	2	4.44
4. Accessing Community Resources	4	5.70	3	5.89	5	5.38
5. Interagency Coordination	5	5.81	4	6.15	4	5.25
6. Advisory Committee Work	6	6.47	6	6.63	7	6.19
7. Staff Supervision	7	6.53	7	6.78	6	6.13
8. Community/Employer Surveys	8	6.81	8	6.96	8	6.56
9. Follow-Up Surveys	9	7.33	9	7.22	10	7.50
10. Community/Employer Referral Service	10	7.56	10	7.37	12	7.88
11. Community/Employer Visitation	11	7.60	11	7.48	11	7.81
12. Statistical Services	12	7.60	12	7.96	9	7.00
COMPONENT SIX: STAFF DEVELOPMENT						
1. Needs Assessment	1	1.93	2	2.30	1	1.31
2. Teacher In-Service	2	2.16	1	2.07	2	2.31
3. Administrator In-Service	3	2.79	3	2.33	4	3.56
4. Visitation to Other Programs	4	3.35	4	3.63	3	2.88
5. Professional Meeting Attendance	5	4.51	5	4.52	5	4.50
COMPONENT SEVEN: FACILITIES						
1. Shop/Lab Space	1	3.51	1	3.67	3	3.25
2. Curriculum Lab	2	3.56	3	3.96	2	2.88
3. Learning Lab	2	3.56	4	4.19	1	2.50
4. Classroom Space	4	3.58	2	3.78	5	4.69
5. Model Environments	5	4.47	5	4.41	4	4.56
6. Structural Modifications	6	5.63	7	6.11	6	4.81
7. Office Space	7	5.74	6	5.88	8	5.50
8. Facilities Maintenance	8	5.36	8	6.22	7	5.25

Table 8

PRIORITIZATION OF NEEDS FOR SERVING POST SECONDARY HANDICAPPED STUDENTS

POST SECONDARY HANDICAPPED NEEDS: COMPONENTS AND ELEMENTS	INSTITUTIONS					
	Total N=44		Technical Institutes N=28		Community Colleges N=16	
	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT ONE: PROGRAM SUPPORT SERVICES						
1. Guidance and Counseling	1	3.00	1	2.89	2	3.19
2. Diagnostic and Evaluation Services	1	3.00	2	3.36	1	2.38
3. Transportation for Students	3	5.00	3	4.71	5	5.50
4. Tutoring Services	4	5.09	4	5.14	4	5.00
5. Student Financial Assistance	5	5.86	5	6.68	3	4.44
6. Job Placement Coordinator	6	6.32	5	6.68	6	5.69
7. Psychological Testing	7	6.98	6	7.21	8	6.56
8. Contract for Special Services	8	7.30	9	8.00	7	6.06
9. Parents/Family Counseling	9	7.48	8	7.82	9	6.88
10. Home/School Coordinator	10	7.66	7	7.60	11	7.75
11. Work Study Coordinator	11	8.16	11	8.71	10	7.19
12. Clerical Support	12	8.70	10	8.07	12	9.81
13. Staff Travel	13	9.91	12	9.82	13	10.06
COMPONENT TWO: INSTRUCTIONAL PERSONNEL						
1. Regular Voc-Ed Instructional Staff	1	2.75	1	3.14	1	2.06
2. Regular Instructional Staff	2	3.14	3	3.29	2	2.88
3. Remedial Reading Specialist	3	3.36	1	3.14	3	3.75
4. Curriculum Specialist	4	4.11	5	4.25	4	3.88
5. Teacher Aides	5	4.14	4	4.14	5	4.13
6. Remedial Math Specialist	6	4.57	6	4.43	6	4.81
7. Media Specialist	7	7.11	7	8.14	7	5.31
COMPONENT THREE: INSTRUCTIONAL MATERIALS, SUPPLIES AND EQUIPMENT						
1. Task Analysis of Occupations	1	4.16	1	3.75	3	4.88
2. Individualized Instructional Materials	2	4.35	2	4.56	1	4.00
3. Tools and Equipment	3	4.89	3	5.39	1	4.00
4. Audio-Visual Materials	4	5.60	4	5.71	6	5.63
5. Remedial Materials	5	5.95	6	6.32	4	5.31
6. Routine Classroom Materials	6	5.98	5	6.25	5	5.50
7. Raw Materials	7	6.73	8	6.71	7	6.75
8. Furniture and Furnishings	8	6.93	6	6.32	10	8.00
9. Teaching Games and Models	9	7.48	9	7.25	8	7.88
10. Printed Materials	10	8.32	10	8.54	9	7.94
11. Field Trips	11	8.70	12	8.86	11	8.44
12. Minority Culture Materials	12	8.84	11	8.67	13	9.13
13. Maintenance and Repair Equipment	13	9.34	13	9.75	12	8.75

POST SECONDARY HANDICAPPED NEEDS: COMPONENTS AND ELEMENTS	INSTITUTIONS					
	Total N=44		Technical Institutes N=28		Community Colleges N=16	
	Rank	Mean	Rank	Mean	Rank	Mean
COMPONENT FOUR: INSTRUCTIONAL RELATED NEEDS						
1. Identification of Students	1	2.36	1	2.43	1	2.25
2. Release Time for Planning	2	2.73	2	2.68	2	2.81
3. Technical Assistance for Student Prescriptions	3	3.27	4	3.46	3	2.94
4. Release Time for Student Conferences	4	3.34	3	3.25	4	3.50
5. Teacher Clerical Support	5	4.77	5	4.64	5	5.00
6. Additional Period of Employment	6	5.36	6	5.54	6	5.06
7. Substitute Teacher Pay	7	6.11	7	5.89	7	6.50
COMPONENT FIVE: ADMINISTRATION AND SUPERVISION						
1. Program Planning and Development	1	3.25	1	3.64	1	2.56
2. Accessing Community Resources	2	4.73	2	4.82	3	4.56
3. Interagency Coordination	3	5.18	3	5.46	4	4.69
4. Program Evaluation and Research	4	5.34	4	5.86	2	4.44
5. Program Administration	5	6.23	7	6.89	5	5.06
6. Advisory Committee Work	6	6.25	5	6.32	7	6.13
7. Community/Employer Referral Service	7	6.55	6	6.36	10	6.88
8. Community/Employer Surveys	8	6.82	10	7.50	6	5.63
9. Staff Supervision	9	7.07	9	7.39	9	6.50
10. Community/Employer Visitation	10	7.18	8	7.21	11	7.13
11. Statistical Services	11	7.63	11	7.89	12	7.19
12. Follow-Up Surveys	12	7.70	12	8.46	8	6.38
COMPONENT SIX: STAFF DEVELOPMENT						
1. Needs Assessment	1	1.95	2	2.36	1	1.25
2. Teacher In-Service	2	2.18	1	2.18	2	2.19
3. Administrator In-Service	3	3.11	3	2.96	4	3.38
4. Visitation to Other Programs	4	3.16	4	3.46	3	2.63
5. Professional Meeting Attendance	5	4.32	5	4.39	5	4.25
COMPONENT SEVEN: FACILITIES						
1. Structural Modifications	1	2.91	1	2.82	3	3.06
2. Shop/Lab Space	1	2.91	2	3.04	1	2.69
3. Classroom Space	3	3.84	3	3.54	5	4.38
4. Curriculum Lab	4	4.48	5	5.25	4	3.13
5. Model Environments	5	4.55	4	4.39	4	4.81
6. Learning Lab	6	4.70	6	5.71	2	2.94
7. Office Space	7	5.66	7	5.89	8	5.25
8. Facilities Maintenance	8	5.68	8	6.21	6	4.75

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Comparison of need also implied some differences in perspective between community colleges and technical institutes. For example, task analysis was judged significantly more important by technical institute directors than community college directors; likewise, minority cultural materials were judged significantly less important by community college directors than by directors in technical institutes. This situation occurred on several other items, such as learning labs, tutors, and community/ employer surveys.

At the secondary level differences among schools due to enrollment size or geographic location were minimal; those differences that did emerge were usually centered within small or isolated systems, thus reflecting the difficulty in spending funds that must be matched in those areas.

There were some differences in perceptions by type of population. For example, a work study coordinator was considerably more important and a home/school counselor considerably less important for disadvantaged students than for handicapped students. Overall, however, needs at the secondary level were more similar than different.

Differences in perspective between secondary and post secondary needs reflected independent missions between these levels of schooling. For example, at the secondary level, items such as parents/family counseling and job placement coordinators were judged as critical for disadvantaged students. These items were relatively less important at the post secondary level; instead, items such as student financial assistance, transportation, minority culture materials and task analysis of occupations were judged to be much more critical.

In terms of serving handicapped students, critical secondary needs that did not receive similar emphasis at the post secondary level included parent/family counseling and a home school coordinator. At the post secondary level, items which were judged relatively more critical than at the secondary level included transportation, financial assistance, task analysis of occupations, tutoring services, accessing community resources and structural modifications.

Secondary and post secondary local planners/directors were asked to single out the five most important needs for handicapped and the five most important needs for disadvantaged vocational students. These needs provide a potential basis for programmatic action and are presented in Tables 9 and 10. As noted in the tables, the needs vary by population and by level, indicating that while a program for one population or level would have some transportability, it would require additional adaptation in order to successfully serve another special needs population. The "percentage of responses" column indicates how many of the 110 responding secondary administrators and 44 responding post secondary administrators chose these items. Adjusted to account for the number of "nc responses," the overall percentage would increase because a number of administrators either did not respond to this question, or substituted their own categories.

Table 9

MOST NEEDED PROGRAM ELEMENTS: SECONDARY LEVEL

Percentage of Responses	SECONDARY NEEDS	
	Disadvantaged	Handicapped
30-50%	Teacher In-Service Follow-Up Identification of Students	Teacher In-Service Identification of Students Structural Modifications
15-30%	Guidance and Counseling Diagnostic and Evaluation Services Job-Placement Coordinator Parent/Family Counseling Individualized Instructional Materials Release Time for Planning Regular Voc-Ed Staff Program Coordination In-School (Staff) Support Remedial Materials	Diagnostic and Evaluation Job Placement Coordinator Parent/Family Counseling Guidance and Counseling Psychological Testing Regular Voc-Ed Staff Individualized Instructional Materials Release Time for Planning Program Planning and Development Program Evaluation and Research Program Coordination In-School (Staff Support)
10-15%	Community Access and Support Tools and Equipment Program Planning and Development Program Evaluation and Research Structural Modifications	Remedial Materials Release Time for Student Conferences Accessing Community Resources Community Support

Table 10

MOST NEEDED PROGRAM ELEMENTS: POST SECONDARY LEVEL

Percentage of Responses	PRIMARY POST SECONDARY NEEDS	
	Disadvantaged	Handicapped
25-50%	Identification of Students Guidance and Counseling Student Financial Assistance Diagnostic and Evaluation Services	Guidance and Counseling Job Placement Coordinator
15-25%	Teacher In-Service Training Remedial Materials Job Placement Coordinator	Transportation for Students Structural Modifications (Facilities) Identification of Students
10-15%	Needs Assessment Individualized Instructional Materials Remedial Reading Specialist Regular Voc-Ed Staff Transportation for Students Tutoring Services Teacher Aides Child Care Services	Teacher In-Service Individualized Instructional Materials Diagnostic and Evaluation Services Remedial Reading Specialist

PLANNING

Effective vocational education for special needs populations requires systematic, comprehensive planning which includes identification and description of target populations, establishment of priorities, initiation of programs, monitoring of activities, program evaluation and provision of feedback. Study data indicated that such systematic and comprehensive planning was not current practice in North Carolina; instead, planning processes were characterized as:

1) Usually conducted to achieve compliance rather than to provide program information;
2) Utilized processes with products that reflect little programmatic usefulness in terms of providing direction, immediately usable information or the measurement of impact;
3) Utilized processes that rarely included pertinent or systematic information about student needs, community needs, employer needs, alternate available resources, programmatic needs or previous accomplishments;
4) Utilized processes that tended to be haphazard, fragmented, based on spurious information and conducted in relative isolation; but nevertheless
5) Evidenced potential/promise of improvement in planning, but not without difficulties.

Federal vocational legislation which requires the preparation and submission of annual and five-year state plans for vocational education is partially responsible for the current planning situation. The Office of Education, the agency designated to receive and review state plans, must approve each plan after U.S.O.E. is satisfied that the plan will, in fact, be implemented. In accordance with federal legislation, state plans specify how federal dollars will be spent when (if) the plan is approved and the money is allocated. Further, the plan provides assurances that state and local agencies are in compliance with legal stipulations such as committee memberships, reporting procedures, designation of authority and creation of certain staff positions.

The compliance nature of the plan has been the overriding interpretation of the legislation. The situation has been compounded by requirements that call for LEA's to prepare and submit local plans to the SEA in order to secure funds. Again, the emphasis is on compliance and assurances--the "right words"--that the money will be spent in certain ways rather than upon day-to-day operations or the development of a delivery system or program for providing services to special needs students.

A General Acccunting Office (GAO) report entitled, "What Is The Role of Federal Assistance for Vocational Education?" (1974) and an earlier SSI study, "Assessment of Need in Programs of Vocational Education for the Disadvantaged and Handicapped" (1975) included investigations of the viability of state plans. The GAO report concluded that state plans are prepared only for compliance with U.S.O.E. regulations in order to receive federal funding; are not used for operational purposes or to measure progress; are not an effective planning or management tool; and are usually based on unverified local data. The SSI study findings indicated support for the above conclusions as well as suggesting that the overall quality and usefulness of plans varies drastically from state to state and year to year; that information contained in the plans was often inconsistent with other information presented in the plans; that the plans rarely provided program direction in terms of policy, definition, activity or evaluation; and that the information required was unrelated to program planning.

While a review of the Fiscal Year 1978 North Carolina State Plan for Vocational Education did not reveal either the range or the depth of the above criticisms, the Plan did substantiate the overall characteristics of serving as a compliance document. The State Plan serves as a promise and a formula of how federal dollars will be administered and spent. There are minimal suggestions of policy or activity content; the Plan is not significantly related to actual program operations. Further, while the data reflect the best information available, it does not provide a comprehensive statement of need, measurable objectives, or program evaluation results. Specification of the university of need and measurable administrative and outcome objectives are absolutely critical for evaluation. Additionally, direction, encouragement and incentives concerning particular kinds of programming could be advantageous to performance. At Federal and State levels, however, the plan evolvement and stress has been on compliances.

Perhaps the most unfortunate consequence of the compliance orientation is the relative neglect of the collection and use of pertinent or systematic information about student needs, community needs, employer needs, alternate available resources, programmatic needs or previous accomplishments. Neither national, state or local needs assessments have been performed to determine the nature and extent of individual and community requirements for vocational education for special needs populations. Program decisions seem to be based on funds that have been allocated; funding decisions seem to be based on past practice and the relative influence of involved agencies. The questions of need and relative programmatic success traditionally have been ignored. The State Department of Public Instruction's Management Information System (MIS) does not contain the types of data necessary to implement an operational planning and evaluation system. For example, while the MIS does contain the data required to demonstrate compliance, it does not contain all data necessary for planning and accountability. While the MIS does contain expenditure and enrollment information by type of disadvantagement, type of handicapping condition and individual school system, MIS does not contain information on the universe of need or program success. More specifically, MIS does not include information on vocational education special needs students in terms of program completers, dropouts, reclassified students or relative student progress. Further, the system does not include usable information on the universe of need in terms of individuals to be served in vocational education; educational services to be provided; local, regional or state manpower needs; or training capabilities. Effective, comprehensive planning requires that these issues be addressed.

Local level planning is characterized as haphazard, fragmented, based on spurious information and conducted in relative isolation. Survey, site visit and phone interview information revealed that local directors have been ill-prepared to conduct local planning. While the S.D.P.I. Division of Vocational Education has provided excellent assistance in complying with federal guidelines and directives, evaluation and program planning based on documented need has not been adequately addressed. Local planning looks inward more than outward; community contacts are too often infrequent and informal. Table 11, "Use of Planning Resources," depicts local administrators'

Table 11

USE OF PLANNING RESOURCES

PLANNING ITEM	TYPE OF SCHOOL SYSTEM - AVERAGE RANK OF ITEMS								Total Rank (N=103)	Numerical Rank
	Geographic Strata			Governmental Structure		School System Size				
	Coastal (N=37)	Piedmont (N=46)	Mountain (N=20)	County (N=69)	Municipality (N=34)	Small (N=32)	Medium (N=39)	Large (N=32)		
Financial Resources	4.78*	6.26•	4.60*	5.67*	4.88*	6.16•	5.56#	4.47*	5.41	1
Staff Skills	6.19#	5.33*	5.95#	5.71#	5.85#	6.69	5.00*	5.75#	5.76	2
Student Interest	6.41+	6.06+	7.55	6.59•	6.24•	6.16	6.03+	7.35•	6.48	3
Specific Handicap or Disadvantagement of Population	7.92	5.91#	7.10+	6.71#	7.18	5.91*	6.95	7.72+	6.86	4
Federal Mandates, Rules and Regulations	7.03•	6.78	6.75•	6.88	6.82	6.06+	6.23•	8.44	6.86	4
State Mandates, Rules and Regulations	7.14	6.72	7.10	7.06	6.71+	6.03#	6.23	8.47	6.94	6
Facilities	7.65	7.13	6.70	7.14	7.41	7.47	6.92	7.38	7.23	7
Size of Population to Serve	7.27	7.78	9.00	8.01	7.47	7.59	7.82	8.09	7.84	8
Local Manpower Needs Projections	7.57	8.96	8.75	8.78	7.68	8.34	8.77	8.06	8.42	9
Local Advisory Council	8.62	9.20	8.45	8.93	8.68	8.15	9.72	8.47	8.84	10
Staff Interest	9.89	7.74	10.10	9.13	8.65	9.69	8.46	8.88	8.97	11
Equipment	9.46	9.37	9.75	9.61	9.06	10.84	8.36	9.31	9.43	12
Task Analysis of Occupations	9.70	11.08	9.00	10.36	9.82	11.03	10.36	9.13	10.18	13
Industrial Projections of Growth	9.65	10.28	10.95	10.49	9.56	9.94	10.72	9.78	10.18	13
Regional/State/National Manpower Projections	9.97	11.30	10.40	10.72	10.50	10.66	11.18	9.97	10.65	15

* = Most important planning item
\# = Second most important planning item
\+ = Third most important planning item
• = Fourth most important planning item

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perceptions of their most important planning resources. As indicated in the table, internally fixed items such as the established financial resources, certified staff skills and teaching areas and student interest surveys are the most important planning items; these are followed by compliance requirements at federal and state levels. Items such as the universe of special needs students to be served, local manpower needs and local advisory committee inputs are relatively less important. Least important of all are regional and state manpower needs, local projections of growth and task analysis of occupations. Unfortunately, these latter needs, ranging from the universe of special needs students to be served to regional and state manpower projections, are pertinent planning data because they establish individual, community and employer needs as well as demonstrate program flexibility in providing related training.

Reliance on given financial resources, certified staff skills and student interests for planning is unfortunate for a number of reasons. First, data indicate that this situation obtains regardless of geographic area, governmental structure or size of school system, thus contributing to isolation of school from employer and community contacts, resources and assistance. The only critical differences exist in small school systems where, because of limited central office personnel, federal and state guidelines were viewed as more important. Small systems also utilized industrial growth projections and advisory committee inputs more heavily than did other systems.

Second, use of priority planning items reveals an inward orientation to program planning with emphasis on constraints. Not only does this orientation contribute to isolating the school from its constituent community, but also it indicates that the purposes for which programs exist may not be fulfilled. For example, if the program purpose is to prepare individuals for gainful employment in recognized, new or emerging occupations but program development is based exclusively on existing money, staff certification and student interests, then there may be no match between offerings and demand or between content and specific skill requirements of jobs.

Third, exclusive use of the three noted items does not provide for program growth or accountability. Universe of need has not been specified, students have not been recruited and relative success has not been determined. Data suggested that even directors of exemplary programs could not estimate their universe of need. These are particularly important areas if the provisions of new federal and state laws pertaining to the vocational education of special needs populations are to be fully implemented.

Survey data implied that systematic assessment has not taken place; in fact, needs assessment was the most highly touted need of community colleges in their efforts to serve special needs students. While not as high a priority item, it was also a major concern of technical institute vocational directors as well as LEA vocational directors and planners. New federal and state legislation as well as a reorganization within the State Department of Public Instruction should help rectify this situation. The avowed purpose of Title II, of the Vocational Education Amendments of 1976, was to "assist states in improving planning in the use of all resources available to them for vocational education and manpower training by involving a wide range of agencies and individuals concerned with education and training within the state in the development of the vocational education plans." Even so, many of the criticisms of planning based on prior federal vocational education requirements still obtain.

In spite of provisions for state planning grants, regulations concentrate on compliance data and committee membership. Regulations continue to assume vocational administrator competence and willingness to conduct planning activities, fail to provide specifics on gathering or using pertinent data and provide little assistance on how to effect interagency coordination. However, two provisions offer particular hope. First, the amendments require legal coordination with P.L. 94-142, "The Education of All Handicapped Children Act." This law provides more specific guidance on how to plan, how to address the universe of need, how to use the information and requisite administrator competencies. Second, the amendments call for establishment of a State Board of Vocational Education which is empowered to coordinate the development of policy,

coordinate development of state plans and accountability reports and consult with the State Advisory Council on Vocational Education and other appropriate agencies.

Within North Carolina, several developments portend particular encouragement for improved practice. These include new vocational legislation, a reorganization of the State Department of Public Instruction and new initiatives within several divisions of SDPI with regard to planning.

The North Carolina Vocational Education Act incorporates vocational education as an integral part of the education process. It mandates that the State Board of Education oversee the program which will prepare individuals (a) for gainful employment in recognized, new or emerging occupations; (b) for participation in more advanced training; and (c) to make informed occupational choices. Further, the Board is charged with developing policies, rules and procedures to insure high quality programs for all individuals who desire or have need for such a program. Additionally, the Board is required to prepare a Master Plan for Vocational Education which transcends the federally required State Plan and which will include participation by related agencies and community interests; public hearings; "state policy for vocational education and the system for the delivery of vocational education programs, services and activities"; standards; qualified staff; and evaluation, among other provisions. The creation of the Master Plan has the potential to correct many of the planning shortcomings of the state plan prepared for the federal agency. In addition, the requirement of charging local boards to insure the currency of job needs to the relevancy of training offerings will require local administrators to develop community-based planning.

The State Department of Public Instruction, Division of Vocational Education, has also been reorganized to improve planning. There is now, in addition to Field Services and Field Support, a division for Planning. The reorganization should result in the planning process receiving the increased emphasis it deserves if the process moves beyond present state

plan directives. Improvements such as a comprehensive planning effort in place of total LEA and CC/TI autonomy, planning for special needs as well as regular students, consistent long and short term practices, and coordinated planning can be initiated. Provisions within the current state plan requiring local level coordination with special education and adherence to the provisions of P.L. 94-142 should assist in this process. Additionally, the new funding formula which incorporates a statement of need will require changes in planning procedures. It is assumed that alterations in the Management Information System will be made to accommodate the planning and evaluation provisions of the new legislation.

The Division of Vocational Education has initiated a new local planning thrust in addition to the reorganization. Concentrated in-service activities with school principals, coupled with contracted consulting assistance on creating a planning system could significantly improve local planning. However, this approach is not without difficulties. First, during the aforementioned SSI mainstreaming survey, data from principals suggested that a large learning curve will have to be overcome. For example, as recorded in SSI's companion "mainstreaming" study, 100 randomly selected principals revealed that 68% of them had no professional experience in working with the handicapped and 76% had no personal experience in dealing with the handicapped.

The development of a vocational education planning system is further complicated by other potentially competing systems within state government and within the State Department of Public Instruction. For example, the planning system designed by the Voit Corporation for the Division of Exceptional Children has potential for adapability to vocational education needs, especially for special needs populations. However, whether coordination is effected remains an issue to be addressed.

TRAINING

Instructor and administrator competency and skill development emerged as an increasingly important issue. The lack of adequately trained staff and the need for teacher and administrator in-service programs were consistently perceived as the most potent barriers and the most critical needs at the secondary level relative to effectively providing vocational education to special needs populations (see Tables 1, 5 and 6). At the postsecondary level, lack of adequately trained staff and teacher in-service training were consistently among the most potent barriers and critical needs (see Tables 2, 3, 7 and 8). In general, the issue of training was characterized as follows:

1) A most critical area, statewide, which has yet to be addressed systematically;

2) Involves skills, competencies, attitudes and expectations at the school level, many of which have not been specified;

3) Is compounded at the state level by certification and training opportunity difficulties; and

4) Evidences initial activities that have begun to address the issue in North Carolina, but critical problems continue to exist.

A General Accounting Office report entitled, "Training Educators for the Handicapped: A Need to Redirect Federal Programs," (1976) signaled the beginning of a growing awareness of the necessity of developing the skills and competencies of all teachers to work with special needs students. Among the several findings and conclusions contained in this report, several are particularly important to this study including:

1) Mainstreaming is a fact for all education, but teacher skills do not yet match legal stipulations;

2) In 1974, less than one-half of one percent of the nation's vocational education instructors had received special instruction in working with the handicapped;

3) Vocational educators' "lack of sensitivity and skills in dealing with the handicapped is a major barrier to integration into regular vocational education programs"; and

4) Too often, special needs students are intentionally excluded from regular vocational education by virtue of teacher attitude, apprehension or lack of training.

In reality, the problem is multisided; not only have vocational educators not been afforded the opportunity to acquire necessary new skills and abilities to serve special needs students, but also, special education teachers have not been prepared to provide career and pre-vocational information to special needs students. Compounding the problem is the lack of attention focused on identifying specific skills and competencies needed by vocational special needs personnel; to date, less than 15 studies have addressed the problem, and none with results specifically generalizable to North Carolina. Results, however, do suggest some general direction for concentration. For example, the 1976 study, "Vocational Education for Special Needs Students: Competencies and Models for Personnel Preparation," produced several highly critical teacher tasks including: (a) identifying appropriate instructional techniques for special needs learners; (b) providing appropriate reinforcement; (c) evaluating instruction; (d) planning sequenced units of instruction based on learner needs; (e) coordinating with other instruction; (f) developing materials; and (g) providing career information and guidance.

The SSI assessment gathered preliminary data on the training situation in North Carolina. The information is not presumed to be generalizable because it was collected from approximately 30 teachers in 7 programs. Still, the information is of use because the teachers identifying those competencies are the teachers involved in programs suggested by state personnel as being some of the better programs in the state. Of particular use are the most critical competencies needed to work with special needs students in vocational education. Survey data revealed the following five skills and competencies to be those judged as most critical in working with special needs students in vocational education.

Competencies for Working with Handicapped Students

a) Setting realistic goals for and with students;
b) Developing positive self-concept activities;
c) Creating favorable learning environments;
d) Working with parents; and
f) Devising appropriate learning activities.

Competencies for Working with Disadvantaged Students

a) Setting realistic goals for and with students;
b) Verbal and non-verbal communication skills;
c) Devising appropriate instructional materials;
d) Developing positive self-concept activities; and
e) Creating and using alternative motivational techniques.

Note that there is some correspondence between the lists of competencies, particularly in areas such as developing and using instructional techniques and materials, creating and using appropriate motivational and reinforcement techniques, and development of positive self-concept.

The North Carolina instructors were asked to indicate which competencies and skills were the most critical, immediate in-service needs in order to determine where priority should be placed. These competencies, for all special needs students, were:

a) Accessing community programs and resources for special needs students;
b) Diagnosing learning problems;
c) Involving aides in the program;
d) Developing appropriate evaluation instruments;
e) Recognizing and utilizing the psychological characteristics of students;
f) Knowledge of state and federal programs serving special needs populations;

g) Understanding and using the sociological characteristics of students;

h) Utilizing available research;

i) Knowledge of counseling techniques and how to use them; and

j) Working with parents.

No claims are made that this list is either comprehensive or generalizable to the state; however, it does represent a beginning.

Several other important "beginnings" have also been made in North Carolina. Most important is the recognition by the University system of the need to expand capacities to provide in-service and pre-service training to teachers of special needs students. For example, the 1975 Report From the Cooperative Planning Consortium of Special Education Programs concluded, among other findings, that (a) "an organized, systematic method of delivering field-based education for uncertified and otherwise inadequate teachers and other personnel must be developed" and (b) "there are insufficient numbers and types of faculty and staff resources in the University tc meet pre-service and in-service training needs in the state at this time." More recently, the Teacher Education Review Program of the Board of Governors reported that the University system must move to meet demand for qualified special education and vocational instructors, must shift emphasis from pre-service to in-service programs both on and off campus, must train specialists to serve the education needs of a wide variety of children who cannot fit the exact mode of regular educational settings and must train graduates to work in educational and service programs outside the school setting.

Data contained in the FY 1977 State Plan for Vocational Education substantiate this need for additional instructors. Projected requirements and supply for vocational education personnel to serve disadvantaged and handicapped students for FY 1977 and FY 1978 are shown in Table 12. What is most significant about the data is the sources of supply.

Table 12

PROJECTED REQUIREMENTS AND SUPPLY FOR OCCUPATIONAL EDUCATION PERSONNEL, DISADVANTAGED AND HANDICAPPED, FISCAL YEARS 1977 and 1981 BY LEVEL

Fiscal 1977

		Estimated Requirements			Estimated Supply		
		Total	Replacement	Program Growth	Continuing Employment	Pre-Service Programs	Other
DISADVANTAGED	Secondary	60	10	5	45	-	15
	Post-Secondary	50	4	8	38	4	8
	Adult	65	5	6	54	3	8
HANDICAPPED	Secondary	65	12	8	45	-	20
	Post-Secondary	25	3	5	17	-	8
	Adult	45	5	2	38	-	7

Fiscal 1981

		Estimated Requirements			Estimated Supply		
		Total	Replacement	Program Growth	Continuing Employment	Pre-Service Programs	Other
DISADVANTAGED	Secondary	75	11	2	62	-	13
	Post-Secondary	60	5	10	45	5	10
	Adult	75	10	-	65	-	10
HANDICAPPED	Secondary	80	14	6	60	-	20
	Post-Secondary	30	5	5	20	2	8
	Adult	45	5	-	40	-	5

Source: FY77 State Plan, Table 8, pp. 247-250

Pre-service programs are projected to have minimal impact on meeting the manpower requirements. If supply is to equal demand, teachers must either be recruited from out-of-state or moved from current positions to special needs positions and provided with in-service training. Further, it is noted that these figures were derived before the full consequences of P.L. 94-142 are known; demand figures will undoubtably be revised upward.

Teaching assignments in occupational programs (FY 1977) serving disadvantaged and handicapped students reflect the potential need for in-service education efforts. Data available from the Field Support Section of the Division of Occupational Education indicate the following:

823 teachers - Have part-time or full-time responsibilities in disadvantaged/handicapped programs

179 teachers - Have half-time or more teaching responsibilities in disadvantaged/handicapped programs

46 teachers - Full-time equivalency positions in handicapped programs

21 teachers - Full-time equivalency in special needs programs (Part A 102b) (based on ten months employment)

A second important step in addressing the training issue has been the involvement of the University system in the development of the FY '78 State Plans for Vocational Education. Not only did a representative of the University system participate in the construction of the Plan, but also the Plan specifically addressed and authorized the use of funds under Section 135 of the Vocational Education Act for purposes of providing in-service training for teachers, supervisors and trainees of teachers in vocational education "to improve the quality of instruction, supervision and administration of vocational education for ... persons with special needs such as: disadvantaged, handicapped, native American, minorities and offenders in correctional institutions." The Plan further specifies that the University system will provide increased emphasis on continuing and developing new programs for the pre-service and in-service professional training for vocational education in many areas including disadvantaged and handicapped. In addition, all existing programs are to be evaluated to assure inclusion of experiences designed "to assist in effectively working with disadvantaged and handicapped." Such efforts are commendable

not only because they represent increased attention and coordination, but also because they have potential for more completely utilizing the training provisions included in Federal vocational and special needs populations legislation.

Another critical training problem in vocational education for special needs populations involves the issue of certification. At present, becoming certified to work with special needs populations in vocational education is complicated because: (a) there are limited numbers of institutions which offer courses designed to meet the need; (b) courses are offered irregularly and on campus rather than in the field; (c) course flexibility has not been developed in order to include the range of skills and competencies necessary to adequately serve special needs populations; (d) extra hours (usually six) of course work are required to achieve certification; and (e) no extra compensation is awarded to teachers who are certified in spite of extra training or more difficult work assignments. The question of extra compensation is the least critical of difficulties because the reality of mainstreaming suggests that all educators should have pre-service or in-service training relating to special needs students. Other complications and inequities must be addressed if the training issue is to be resolved.

FUNDING

The issue of funding in North Carolina was characterized as:

1) Usually a matter of compliance and territoriality;

2) Differentially viewed between Divisions at the secondary level as well as between the secondary and post secondary level;

3) A topic in which imaginative and specific attention has not been proportional to the topic's importance; and

4) Especially complicated because no one knows how much it costs to successfuly service special needs students.

The issue of funding sharply contrasted federal law and state efforts to provide vocational education to special needs populations. Federal rules concentrate on compliance activities to which the state must adhere in order to secure funds--to the potential detriment of programmatic issues. At the state level, within the Division of Vocational Education, funding matters were neither the only nor the major concern. The basic orientation in North Carolina is one of increasing the quality and efficiency of existing potential capabilities rather than simply assuming that the answer is more money.

Funding and program planning in vocational education is usually conducted in terms of the average student. Funding for special needs students complicates the issue. Programs serving special needs students are more expensive because it is assumed that special needs students require special equipment and materials as well as increased individual attention. Budgeting rationale usually focuses on expanding existing resources to the greatest numbers of people in order to derive maximum cost effectiveness. In truth, however, no education is cost effective in the short term. Benefits must be viewed over a series of years, the number of which must be adjusted to characteristics of the population of students in question. This is particularly critical for special needs populations since these populations have a greater potential for economic drain if they are not provided with training and education to permit self-sufficiency.

The funding issue has been complicated by legislation at federal and state levels. Monies have been allocated to different agencies, with different obligations, in different bills with little attention to the possibility or necessity of coordinated funding. The promulgation of new legislation, however, has not only encouraged such cooperation but has mandated that, at least handicapped students must be served. To date, however, the problems of emphasis on compliance and the competition for the human educational services dollars has not been solved. Possibly the increased emphasis on the "ends," the outcomes of provision of services to special needs students, will overcome uncoordinated funding to independent agencies which usually spend according to unrelated guidelines that emphasize how money can be spent rather than what the money is supposed to accomplish.

In North Carolina, the issue of funding for special needs vocational education was differentially viewed within divisions of SDPI and between SDPI and other agencies. Consistently, at all levels, vocational educators felt that the issue was not one of simply more money. There was confidence that the present professional staff could achieve success <u>if</u> additional training and increased efficiency were made available to them. This orientation was not the position in other divisions of SDPI where new service requirements such as "least restrictive environments" and IEP's are viewed as an additional instructional technique to be <u>added</u> to the present program rather than a technique to incorporate and subsume the present program. Likewise, increased funding was the major concern among directors and some state office personnel in the Department of Community Colleges and Technical Institutes. In this latter instance, an emphasis on funding is a logical orientation since funding and compliance, rather than programmatic direction, have been the major emphases at the state level.

The local education agency and/or local community college/technical institute must ultimately assume the responsibility for the education of special needs students. Yet high costs, limited local resources, federal "soft" monies, matching requirements and categorical spending regulations have impeded the translation of dollars into programs. In addition, study information revealed that while funding is a concern in the field, it has

rarely been addressed in imaginative or specific fashions. Local directors/planners have never received appropriate training to deal with the entire range of funding matters. Survey data suggested that relatively few of potential funding sources have been tapped. Tables 13 and 14 depict the percentage of LEA's and CC/TI's that use the various sources of funds. As noted in the tables, sources such as CETA, Title I, the Department of Vocational Rehabilitation and so forth are probably underutilized; less than a third of the responding LEA's used such funds although all LEA's presumably qualify.

At the post secondary level, alternative funding sources are more completely utilized. Still, there remains room for improvement, particularly in regards to direct federal monies, private organizations and the Department of Vocational Rehabilitation.

At the secondary level, vocational planners and directors were given an opportunity to indicate those funding sources on which they would like additional information. Approximately 75% of the directors responded to this opportunity with the following results:

	Information on Funding Source	Number of Requests	
1.	State Department of Public Instruction	6	
2.	Department of Community Colleges/Technical Institutions	10	
3.	Local Education Agency Policy	4	
4.	Title I, ESEA	9	
5.	CETA	38	
6.	Department of Vocational Rehabilitation	24	
7.	Direct Federal Grants	27	
8.	Private Corporations/Organizations	22	
9.	LEAA	18	
10.	Social Security Administration	21	
11.	Department of Human Resources	39	
12.	Other	3	(Demonstration Projects)

These results suggest a willingness at the local level to aggresively address the issue in the future.

Table 13

PERCENTAGE OF SECONDARY PROGRAMS USING FUNDING SOURCES

FUNDING SOURCE	SIZE OF SCHOOL SYSTEM			GEOGRAPHIC LOCATION			Percentage of Programs Using
	Small	Medium	Large	Coastal	Piedmont	Mountain	
1. State Department of Public Instruction	100% (28)	100% (39)	100% (35)	100% (36)	100% (46)	100% (20)	100% (103)
2. Dept. of Community Colleges/Tech. Inst	4% (1)	5% (2)	0% (0)	8% (3)	0% (0)	0% (0)	3% (3)
3. Local School Districts	93% (26)	97% (38)	100% (35)	94% (34)	100% (46)	95% (19)	96% (99)
4. ESEA Title I	32% (9)	15% (6)	9% (3)	11% (4)	22% (10)	20% (4)	17% (18)
5. CETA	25% (7)	18% (7)	26% (9)	25% (9)	30% (14)	0% (0)	22% (23)
6. Dept. of Vocational Rehabilitation	29% (8)	26% (10)	40% (14)	36% (13)	28% (13)	30% (6)	31% (32)
7. Direct Federal Grant	0% (0)	10% (4)	0% (0)	11% (4)	0% (0)	0% (0)	4% (4)
8. Private Corporations/ Organizations	7% (2)	2% (1)	3% (1)	0% (0)	7% (3)	5% (1)	4% (4)
9. LEAA	11% (3)	8% (3)	6% (2)	14% (5)	4% (2)	5% (1)	8% (8)
10. Social Security Administration	0% (0)	0% (0)	3% (1)	0% (0)	2% (1)	0% (0)	1% (1)
11. State Dept. of Human Resources	4% (1)	0% (0)	0% (0)	0% (0)	0% (0)	5% (1)	1% (1)
12. Other	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)

SYSTEM SCIENCES, INC.

Table 14

PERCENTAGE OF POST SECONDARY PROGRAMS USING FUNDING SOURCES

FUNDING SOURCE	TYPE OF INSTITUTION		
	Community Colleges (N=16)	Technical Institutes (N=28)	Total (N=44)
1. State Department of Public Instruction	6% (1)	7% (2)	7% (3)
2. Department of Community Colleges/Technical Institutes	100% (16)	100% (28)	100% (44)
3. Local School Districts	25% (4)	11% (3)	16% (7)
4. ESEA Title I	6% (1)	11% (3)	9% (4)
5. CETA	81% (13)	89% (25)	86% (48)
6. Department of Vocational Rehabilitation	69% (11)	64% (18)	66% (29)
7. Direct Federal Grant	6% (1)	18% (5)	14% (6)
8. Private Corporations/ Organizations	19% (3)	18% (5)	18% (8)
9. LEAA	0% (0)	18% (5)	11% (5)
10. Social Security Administration	13% (2)	29% (8)	23% (10)
11. State Department of Human Resources	6% (1)	14% (4)	11% (5)
12. Other	19% (3)	7% (2)	11% (5)

Survey findings also suggested that the funding issue has not been addressed very specifically at the local level. Often local directors/planners within LEA's and CC/TI's did not or could not develop breakdowns of vocationally related expenditures for special needs students. When responses were received, figures were concentrated on salaries of instructional personnel (in accordance with guidelines); often, other expenditures were unknown.

In related fashion, when directors/planners were asked to estimate how much more money they needed to adequately serve special needs students who qualify for programs and who are enrolled in school, many could not derive such estimates. Even in the site visited exemplary programs, such estimates were difficult to obtain. The estimates that were collected are presented in Table 15 for secondary and post secondary, disadvantaged and handicapped students. These figures must be approached with caution since the number of respondents was low, the dollar amounts were variable and per pupil needs were impossible to calculate.

This inability to generate quantitative estimates of need is symptomatic of another major problem concerning the issue of funding--educators simply do not know how much it <u>costs</u> to successfully serve special needs students in vocational education. Too often, the cost of successfully serving special needs students has been assumed to be whatever is spent. Planning for spending has meant talking with special educators about how to spend allocated money. Certainly estimates of dollars expended in providing vocational education to special needs students can be calculated, given money allocated and students served. Yet such calculations do not truly reveal the sum of that additional amount of money per student, above expenditures on regular vocational students, that is needed to succesfully serve special needs students. This figure must not only account for the dollars spent, but also must take into account the extra amounts of teacher time, counselor time, materials and supplies, schedule rearrangements and administrator time required to successfully serve students.

Costs, like other funding problems, are not reserved as LEA or field-based difficulties. Study data revealed some similarities between field funding difficulties and those encountered at the state level. For example,

Table 15

AVERAGE ESTIMATE OF NEEDED ADDITIONAL FUNDS

Program Component	Average Additional Funds Needed*			
	Secondary		Post Secondary	
	Disadvantaged	Handicapped	Disadvantaged	Handicapped
1. Program Support Services	11,900 (N=54) (0-40,000)	10,400 (N=50) (0-40,000)	17,000 (N=25) (0-60,000)	13,000 (N=25) (0-60,000)
2. Instructional Personnel	30,400 (N=54) (0-100,000)	22,800 (N=47) (0-80,000)	38,000 (N=26) (4,000-100,000)	24,300 (N=23) (0-100,000)
3. Instructional Materials, Supplies and Equipment	15,900 (N=59) (0-40,000)	5,600 (N=55) (0-40,000)	9,000 (N=25) (0-50,000)	11,200 (N=21) (3,000-50,000)
4. Instructional Related Needs	3,600 (N=47) (0-20,000)	7,600 (N=47) (0-25,000)	6,000 (N=18) (0-35,000)	13,400 (N=18) (0-35,000)
5. Administration and Supervision	5,500 (N=42) (0-20,000)	4,100 (N=40) (0-20,000)	9,900 (N=21) (0-20,000)	7,200 (N=19) (0-20,000)
6. Staff Development	1,900 (N=54) (0-4,000)	1,600 (N=53) (0-10,000)	5,000 (N=22) (0-25,000)	3,800 (N=19) (0-25,000)
7. Facilities	89,200+ (N=32) (0-1,500,000)	61,400# (N=35) (0-1,500,000)	117,000° (N=13) (0-1,000,000)	120,000 (N=19) (0-1,000,000)

* Rounded to nearest hundred dollars and averaged by institution.

\+ If the one disparent score is removed, the mean is 42,300.

\# If the one disparent score is removed, the mean is 19,700.

° If the one disparent score is removed, the mean is 67,600.

The bottom numbers in parentheses are the range of responses.

personnel at both levels spend major amounts of time in compliance activities and relatively little attention had been directed toward imaginative securement of funds. Several recent occurrences may serve to correct these difficulties. For example, the FY '78 State Plan includes a new allocation formula that takes into account a local education agency's ability to pay, thus improving the probability of placing funds where they are needed. Legislative attention has been drawn to this matter as well, resulting in the passage of a bill to provide for a study of formulas and funding procedures whereby money is allocated to administrative units.

Yet if money is a problem, formula revision is not the total answer. In addition, there must be active pursuit of alternative funding sources. Data revealed that at both state and local levels, available resources have not been tapped. For example, there has been no serious effort to investigate the commingling of funds, or to develop programs, approaches and philosophies that would facilitate that process. Coordinated program development would include activities such as: (a) planning, (b) identifying and diagnosing needs; (c) pre-vocational services; (d) basic academic and remedial services; (e) skill training; (f) counseling; (g) work experience; (h) special support services; (i) individual student plan development; (j) community resource development and utilization; (k) staff development; (l) placement; and (m) follow-up. If the various agencies and divisions which have responsibilities to provide vocationally related services were encouraged to define their services in this fashion, then funds from such agencies could be used to provide funds for multiple components within the total program. A redefinition task stressing mutually supporting programming would not be as difficult as it sounds since the above terms were drawn from existing mission and action statements of various agencies. This approach would facilitiate the commingling of funds from the various agencies.

Even if the programmatic issue was addressed within SDPI and/or SDPI and CC/TI alone, it could have substantial benefits. Examination of the curriculum guide for educable mentally retarded and trainable mentally retarded programs revealed that the secondary level programs for these populations was predominantly vocationally related. Thus, some of these

funds could be commingled with and/or used to match vocational dollars allocated to special needs personnel. While other guides from the Division for Exceptional Children were not examined, there is no reason to believe that the percentage of the secondary program that is vocationally related differs substantially. State level interviews placed the percentage of the total secondary program for handicapped children that was vocationally related at from 10% to 75%.

A second approach that could facilitate commingling would be a client centered orientation for provision of services. For example, if programs were systematically evaluated on a case-closure basis, and if this evaluation had to include referral and the coordinated provision of services, then agencies would have to redefine services to match the needs of clients and the terminology and resources of related agencies. Federal and/or state law certainly does not prohibit either client-centered or programmatic approaches; in fact, regulations pertaining to Section 504 of the Rehabilitation Act and those promulgating the Education of All Handicapped Children Act, not only encourage such cooperation, but provide potential legal interpretations for the courts to mandate such action.

Two final topics within the issue of funding require attention. First, survey, interview and site-visit data revealed that categorical and matching fund requirements at the local level create sizable problems. Large sums of vocational education handicapped funds have been returned each year to SDPI because LEA's, particularly small LEA's, could not secure matching funds. Local directors indicated that the removal of similar stipulations on disadvantaged dollars improved the provision of services to such populations; further, they argued that elimination of the matching requirement for handicapped dollars may be the only way both to fully comply with all related legislation and to improve services.

Second, although state and local plans contain funding formulas, vocational appropriations have not been linked to a planning timetable. There is a need to differentiate between short- and long-term planning and to provide funding for longer than a one-year period in order to insure continuity and facilitate evaluation. Such procedures might also stimulate a project-by-project funding concept, thus improving administrative management.

COORDINATION AND COOPERATION

Traditionally, those who provide vocationally related education and services have been funded by a variety of federal, state and local sources. Further, these systems function somewhat independently, based on separate missions and disciplines. Each agency has a distinctive role to fill in the overall job preparation and placement of special needs students. The concern in this study was for the specific role played by the State Department of Public Instruction and the Department of Community Colleges/Technical Institutes and how these agencies coordinated their roles with other agencies. Findings indicated that coordination and cooperation could generally be characterized as follows:

1) Some informal but few formal channels of communication and cooperation exist between SDPI, and more specifically, the Division of Vocational Education, and other Divisions and Agencies with responsibilities related to vocational education;

2) Evidence that the amount of coordination and cooperation decrease as one advances from field to state agencies and as one moves toward higher authority positions within some agencies and/or divisions of those agencies;

3) At local levels, the watchword is isolation rather than interaction;

4) Interactions, particularly at state and local levels, appear to result from individual rather than organizational initiative; and

5) There is some evidence of efforts to improve coordination and cooperation difficulties.

State level interviews revealed few formal channels of communication and cooperation between the SDPI Division of Vocational Education and other Divisions within the State Department of Public Instruction; likewise, there were few formal channels of communication and cooperation between the Division of Vocational Education and other agencies with vocationally

related responsibilities concerning special needs populations. This does not mean that many channels are required. Rather, it means that channels must be used. Much coordination and communication can be/is accomplished by varying mixtures of formal and informal methods.

Communication within SDPI would seem to be a function of specialty and organization. Historically, disciplines and specialties have grown in education in order to better meet the needs of children of various ages, interests and abilities. Among the advantages of such specialization are increased commitment, expanded depth and specificity of knowledge, additional awareness of and deference to the specialty including special funding and improved self-concept of the specialist by virture of the prestige attached to expertise. The disadvantages of such specialization include a narrowness of perspective, rivalry, competitiveness and separateness that encourage the construction of artificial boundaries and inhibit cooperation and communication.

Vocational education, as an educational discipline, suffers and benefits from these advantages and disadvantages. Unfortunately, over time, some of the advantages have become so institutionalized that they may now be viewed as disadvantages. For example, when special funds are so narrowly designated as to be construed as prohibiting combination with funds of related programs in order to improve services, special funding has ceased to be an advantage to students.

Compounding the problems created by specialization are those created by organizational structure. These difficulties were evidenced in two ways. First, Division heads within SDPI are coequals who function according to the independent mission of each Division and without apparent stress on coordination or communication for mutual information and support. Second, there are no formally designated positions of liaison between any two Divisions or between the Division for Vocational Education and other related agencies. Contacts that have occurred over time, and there have been productive ones, have resulted from individual rather than organizational initiative. Further, communication and cooperation has been maintained as a function of personality rather than administrative structure. Potentially

productive inter-divisional or inter-agency programs therefore run an unnecessary risk of premature rejection or fleeting consideration by a Division head because an initiator from another Division has less than co-equal administrative status. In addition, products developed and used in one division might not be adapted for use in another division because their potential for service is unknown.

In similar fashion, a number of agencies and organizations, each with responsibility for providing vocationally related services to special needs students, have grown as separate agencies with seemingly independent missions, specific goals and unrelated administrations. For example, even though Vocational Rehabilitation, C.E.T.A., SDPI and the Department of Community Colleges each provide vocationally related services to students, there appears to be little sustained communication or coordination among these agencies.

Working relations between SDPI and CC/TI involving vocational education have improved. The Highfill report criticized both agencies for lack of coordination. Both cooperate in developing the state one- and five-year plans for vocational education. However, other articulation such as coordinate programs or curriculums, funding and long-range planning are not known to have been addressed in a completely satisfactory manner.

Consequences of specialization and organizational difficulties have created a situation conducive to isolation with an added potential for empire building, although this situation does not obtain in the Division for Vocational Education. Separate agencies, and even distinct divisions within a single agency, rarely support one another. There are separate terminologies, curricula, planning systems, goals, methods of evaluation and administration. Problem approaches appear centered on preserving or expanding institutional boundaries rather than solving client difficulties. The consumer perspective does not appear to be paramount. This is not to suggest that different agencies and divisions have nothing to offer. There are worthwhile processes and products within each division and agency, but little or no sharing of acquired expertise or control.

If one examines the articulation between SDPI's Division of Vocational Education and Division for Exceptional Children, some of these difficulties are placed in perspective. Each division represents one of the two most "professional" groups in education. Each division has its own planning system, own terminology, own curriculum, own fiscal office, own definition of program, own legislation with which to comply, and so forth. In the past, communication and cooperation has been limited to personal initiative at the state level. Two recent incidents serve to highlight this perspective. Specifically, the Division of Vocational Education is not known to have been consulted either in the Bureau of Education for the Handicapped review of SDPI, or in the recent class action suits regarding provision of appropriate services.

Most unfortunately, there has been no integrated program--definitions, curriculum, staff development, funds--at the state level, although a statewide coordinated program would be logical from a cost and services perspective. The coordination and cooperation that has occurred has often taken place in the regional centers, where such interaction more frequently occurs than at the state or local levels.

Unfortunately, highest level management within some agencies and within state and federal government has not marshalled or exercised managerial skills sufficient to integrate agencies. Further, legislation prior to new vocational laws has done little to foster cooperation; funding sources provide an arena of competition among agencies for the human services dollars and associated administrative responsibilities.

Some coordinations within the Department of Community Colleges and Technical Institutes have been made procedural through staff assignments; specialists have contact and programmatic responsibilities with such agencies as CETA and the Department of Corrections. Likewise, there is increasing planning coordination between SDPI and CC/TI. However, there is no formal articulation between CC/TI and SDPI with regard to program development in vocational education especially for special needs populations.

At regional and local levels, the frequency of coordination and communication is somewhat improved. Within regional SDPI offices, there is evidence of substantial coordination and sharing between vocational and special education personnel. At the local level, there was evidence of increasing frequency of contact between vocational education and special education although contacts between vocational and other agency personnel were minimal. Survey data, as presented in Table 16, "Frequency of Contact," suggest that the local situation is better characterized as one of isolation rather than interaction. The data are the average number of contacts between the office of the local director/planner and other agency personnel, with regard to special needs students, during an average semester. As noted in the table, contacts are not particularly frequent, especially with personnel in agencies that could provide direct program support. For example, even though vocational rehabilitation and CETA are viable potential sources of assistance, average numbers of contacts per semester are 1.4 and .89 respectively. Even contact with the local Vocational Advisory Committee was limited to an average of 1.8 contacts per semester.

Particularly informative as to closeness of working relationships is the statistic that contact was initiated by the other agency in approximately 40% of the overall contacts. Notably, there were few differences in contacts by geographic location or size of system. The exceptions to this generalization occurred in large systems where more frequent contact was established with the Employment Security Commission, parents and CETA representatives.

Local directors were also asked to indicate the degree of involvement their programs had with their constituent community on a number of items such as training, sharing resources and facilities, planning, and so forth. The most frequent response, on a four-point scale ranging from "high" to "low," was "moderately low." Those items on which moderately high involvement was noted included on-site training, planning and support services. Other survey data indicate, however, that even "moderately high" does not constitute much contact. Senate Bill 287, "An Act to Promote and Provide

Table 16

FREQUENCY OF CONTACT

AGENCY	AVERAGE NUMBER OF CONTACTS						
	Large Systems (N=36)		Medium Systems (N=39)		Small Systems (N=28)		Total (N=104)
	Unadjusted	Adjusted	Unadjusted	Adjusted	Unadjusted	Adjusted	Adjusted
1. S.D.P.I., Division of Vocational Education	5.58	5.58	4.66	3.11	8.04	3.57	4.33
2. Dept. of Community Colleges/ Technical Institutes	.31	.31	.46	.21	1.14	.43	.30
3. Regional Center Staff of S.D.P.I.	2.69	2.69	3.64	2.62	3.57	3.14	2.81
4. Vocational Rehabilitation Personnel	1.94	1.39	2.18	1.41	2.21	1.36	1.40
5. CETA Representatives	1.92	1.36	.72	.72	.54	.54	.89
6. S.D.P.I. Division for Exceptional Children	.69	.69	.72	.72	2.10	2.10	1.07
7. Vocational Advisory Committee Personnel	2.25	2.25	1.31	1.31	2.00	2.00	1.80
8. Other LEA or CC/TI Voc-Ed Staff	1.06	1.06	2.77	.97	1.54	1.54	1.15
9. Dept. of Human Resources Personnel	.64	.64	.97	.46	.39	.39	.50
10. Employment Security Commission	3.00	1.59	1.82	1.31	.96	.96	1.27
11. Alternate (CC/TI/UNIV) Education Personnel	2.00	.89	1.69	1.05	1.25	1.25	1.08
12. Parents/Guardians of Students	14.97	1.36	9.28	4.15	4.75	4.75	3.51
13. Civic Club Organizations, Etc.	1.00	1.00	1.00	1.00	1.04	1.04	1.01
14. Volunteers	2.27	.61	.06	.41	.11	.11	.41

Unadjusted is total responses to item. Adjusted responses eliminate the one or two highly disportionate responses in that item. For example, one local director estimated 500 parent contacts during a semester when the mean for all other programs was approximately 5.

for Community Involvement In and Use of Public Schools," may serve to facilitate contact and cooperation by making schools more accessible. Still, there needs to be incentive for school personnel to go into the community, particularly to serve special needs students, rather than just having the community come to school.

The outlook is not gloomy. Federal legislation is beginning to require coordination of efforts designed to fulfill legal obligations such as specifying that programs deriving from the Amendments of 1976 must be coordinated with the Education of All Handicapped Children Act. The State Vocational Education Plan specifies that local plans must be prepared in coordination with the local program for exceptional children. Further, the Special Education Act and the North Carolina Vocational Act require increased cooperation between agencies and programs. Even the Federal vocational legislation is encouraging coordination by specifying committee membership.

There seems to be a growing recognition that agencies need to be independent only to the extent of continuing to develop new knowledge and internal administration. A recent "Memorandum of Understanding" between the U.S. Rehabilitation Services Administration and the U.S. Office of Education publicly recognized that the agencies have some "common responsibilities as providers of human services for handicapped persons." Further, the memorandum sought to define interactions and responsibilities of the agencies in order to assure that handicapped persons will be served, that eligibility of services from one agency will not result in denial of complementary services from another agency and in order to insure that federal and state agencies are committed to coordinated service delivery for handicapped persons. Table 17 presents examples of activities that are cited as appropriate under the three involved laws (P.L. 94-142; P.L. 93-112; and P.L. 94-482). Further, it was noted that all three relate to vocationally related education and that all require development of individual plans or programs by respective agencies. These mandates for individualized programs were emphasized as a focus for coordinating individual services among delivery systems. More specifically, the memorandum directed that:

> In order that education and vocational rehabilitation agencies may integrate the goals of the IEP and the IWRP, the plans should reflect short-term and long-range objectives for career development, vocational skill training, personal adjustment, and job placement. To effect this integration, education agencies must provide guidance to those preparing IEPs and establish local contact with VR agencies. And VR agencies must similarly assure that appropriate IWRP's--e.g., for persons who should complete their plans for special and vocational education--are developed in conjunction with education agencies.

This means, for a North Carolina context example, that the issue of formulating and implementing the IEP concept is too important to be left exclusively to the Division for Exceptional Children.

Table 17

EXAMPLES OF APPROPRIATE SERVICES BY AGENCY

SPECIAL EDUCATION	VOCATIONAL REHABILITATION	VOCATIONAL EDUCATION
o Career awareness activities directed toward making the handicapped student aware of himself and/or careers in the world of work. o Career exploration activities in which handicapped students begin to sample and engage in experiences related to specific careers. o Pre-vocational activities to provide handicapped students "hands on" experiences in the development of basic occupational skills. o Basic academic skill development activities to provide handicapped students with adaptability skills needed for socioeconomic integration into society. o Auxiliary aids, reader services for the blind, interpreters for the deaf, and the like. o Job seeking, job getting, and job holding skill development activities that would give a student the opportunity to develop and practice such skills in real and/or simulated situations. o Staff development activities that provide vocational education and special education teachers with special competencies for preparing handicapped students to enter the world of work. o Career and vocational training for handicapped students, including special training needed to augment the vocational education being provided. o Work-Study programs.	o Evaluation of rehabilitation potential, including diagnostic and related services incidental to determining eligibility for services. o Counseling and guidance, including personal adjustment counseling, to maintain a counseling relationship throughout a handicapped individual's program of service and referrals to secure services from other agencies. o Physical and mental restoration services. o Vocational training and other training services of a pre-vocational, personal and vocational adjustment nature including work experience, books, tools, and other materials related to training. o Maintenance, not exceeding the estimated cost of subsistence, necessary to derive full benefits of other vocational rehabilitation services. o Transportation in connection with the rendering of any vocational rehabilitation services. o Services to members of a handicapped individual's family when such services are necessary to the adjustment or rehabilitation of the client. o Telecommunications, sensory and other technological aids and devices. o Recruitment and training services to provide new employment opportunities in the fields of rehabilitation, health, welfare, public safety, law enforcement, and other appropriate public service employment. o Placement in suitable employment. o Post-employment and "follow along" services necessary to assist handicapped individuals to maintain their employment. o Occupational licenses, tools, equipment, initial stocks (including livestock), and supplies. o Other goods and services which can reasonably be expected to benefit a handicapped individual in terms of employability.	o Vocational education and specific job preparation provided in school for occupations which require less than a baccalaureate degree. Such training can be provided in high schools, area vocational schools, or post secondary institutions such as community colleges. o Industrial arts education and consumer and homemaking education, if the state board includes these programs in their state plan. o Cooperative vocational education in which cooperative arrangements between schools and employers are established to provide students with both vocational and academic instruction through part-time employment. o Placement services for students who have successfully completed vocational education programs. o Vocational guidance and counseling services while in school. o Follow-up services for students who have completed or left vocational education programs. o Curriculum development and modification activities required to enable the handicapped student to participate in "regular" vocational education programs with non-handicapped students. o Modification of vocational education equipment to enable handicapped students to develop skills which would lead to gainful employment.

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POLICY

The issue of vocational education policy is critical. Findings within each level of analysis suggest that the state-of-the-art with regard to vocational education policy for special needs students can be characterized as:

1) Until recently, a neglected concern;

2) A vital aspect in the provision of vocational education to special needs students; and

3) An area in which ground-level efforts have recently been completed. However, unless continuing, systematic attention is given to the topic, considerable damage could be incurred.

Policy can be defined as a definite course or method of action, including strategies, selected from among alternatives within the light of given conditions. Policy is used to guide and determine present and future decisions; clarify expectations, roles and responsibilities; and, provide explanation, encouragement and direction for development of day-to-day operations.

Traditionally, the development of policy concerning the provision of vocational education to special needs students has been a low priority item. At the federal level, the most comprehensive policy statement has been the Suggested Utilization of Resources and Guide for Expenditures (SURGE), published by DHEW in 1968, and a updated version, 1972, derived from an SSI report. These documents included information about the law, services and programs in vocational education for special needs students. Other federal policy must be derived from legislation and regulations.

At the state level, vocational education policy in general, and policy pertaining to special needs students in particular, has been confusing at best. The Highfill Report, "Occupational Education in North Carolina, 1975," contained data suggesting that, while the policies are voluminous, they do not emphasize coordinated planning, do not force articulation, are not easily accessible, are cumbersome, and do not distinguish between short- and long-term policy. Even so, the State Plan was the major policy tool of SDPI with regard to vocational education, including vocational education for special needs students.

Efforts have been undertaken to rectify a number of the criticisms of the Highfill report. Other criticisms have not been addressed, particularly those with regard to special needs students. While the State Plan has been assumed to be a planning and a policy statement, and remains the document of reference with regard to policy by the Division of Vocational Education, it is neither a planning nor a policy document. Instead, it is a funding formula and an assurance to the Federal government that North Carolina has met/will meet the requirements of the law, and, if the Federal money is forthcoming, will spend it in the described manner. The Plan contains a synopsis of certain State Board policy concerning vocational education. However, the overall thrust of the document is one of compliance to the Federal government; it is a reaction to requirements rather than a statement that translates legislative and judicial mandates into a body of administrative and programmatic policy. The document does not provide assistance in the development of goals, objective and strategies which logically flow from general legislative policy. It serves as a compliance rather than accountability document; accountability presupposes not only complying, but also justifying activities and providing for measurable objectives, definite courses of action and attention to major current issues.

The situation in North Carolina is improving. During this last legislature, the North Carolina Vocational Education Bill established vocational education as an integral part of the education process. Further, the bill sets forth the purposes of vocational education and mandates the State Board of Education to develop a Master Plan for Vocational Education which not only sets forth policy for vocational education, but also insures articulation with other agencies, establishes standards and organizes a training effort. Further, the legislation provides impetus to LEA's to develop their own policy by requiring that vocational programs must fit current job needs and demonstrating the relevancy of courses.

Additional assistance in policy formation concerning vocational education for special needs students is recently available from Federal

and state legislation pertaining to the handicapped. For example, P.L. 94-142, The Education of All Handicapped Children Act, Section 504 of the Vocational Rehabilitation Act and the Creech Bill of North Carolina provide a basis for expanding vocational education policy for the handicapped. These laws, and the regulations promulgating them, provide not only compliance requirements, but also program and planning direction, specification for the delivery of services with appropriate means, funds and goals, measurable objectives, time references, provisions for training and so forth. In fact, these laws are so comprehensive and special educators are being so well prepared, that if vocational education professionals do not aggressively translate regulations pertaining to their own missions into program activities, the opportunity to do so may be forfeited to special education; at the very least, some control over programming will be lost.

To date, such forfeiture has not occurred. The Division for Exceptional Children has neither admitted the vocational orientation of its secondary level programs nor seriously addressed vocational education in its programming or planning. For example, drafts of the "North Carolina State Board Rules Governing Programs and Services for Children with Special Needs" does not include a single reference to vocational education or training, even though it should. It remains the obligation of vocational education professionals to assume the leadership position in providing vocationally related education to special needs students.

PROGRAM OPERATIONS

The last issue of concern emerging from the statewide assessment was the general issue of program operations as differentiated from the other seven major issues. Since operations included a number of specific topics, it was somewhat difficult to characterize, based on collected data. In general, findings suggested that even though a number of difficulties remain and many (most) programs are in a relatively early stage of development, several highly advanced efforts have been started and there is promise for continuing improvement in the provision of vocational education to special needs students.

Over the past decade, vocational education programs in North Carolina have moved to provide services to special needs students in North Carolina. During the 1976-1977 school year, approximately 3,500 handicapped and 11,500 disadvantaged students were served in vocational programs. Table 18 "1976-1977 Secondary Handicapped Enrollment in Vocational Education," provides cross tabulations of this enrollment by occupational program area and type of handicapping condition. The majority of handicapped students served were educable retarded (64%). Other categories served, in terms of their percentage of handicapped students served, included: trainable mentally retarded (11%), learning disabled (9%), crippled (6%), and deaf (5%).

In terms of program area in which handicapped students were served, the largest number were enrolled in special (45%) and pre-vocational (21%) programs; thus, more than 50% of the students served were in non-skill training areas. In the regular skill training program areas, 978 or 28% of the handicapped students were enrolled in Trade and Industrial Education (65%). Of those students enrolled in regular skill training programs, 245 or 25% were enrolled in cooperative education courses, including Cooperative Distributive Education, Industrial Cooperative Training, Cooperative Office Occupations and Agricultural Coop.

Table 18

1976-1977 SECONDARY HANDICAPPED ENROLLMENT IN VOCATIONAL EDUCATION

Number of Handicapped Students Served in Vocational Education in North Carolina, School Year 1976-77, by Program Area and Type of Handicapping Condition

	Agriculture	Distributive Education	Health Occupations	Consumer and Homemaking Education	Occupational Home Economics	Business Office Education	Trade and Industrial Education	Pre-Vocational	Industrial Arts	Special Programs	Total for All Programs
Trainable Mentally Retarded				4	21	2	57	42		247	373
Educable Mentally Retarded	42	130	11	133	14	1	500	448	14	958	2251
Hard of Hearing	6							4		5	15
Deaf	16	3					11			143	173
Speech Impaired							1	10		15	26
Visually Impaired				8			8	4		7	27
Seriously Emotionally Disturbed		7					1	7		36	51
Crippled	9			44		48	31	79	5	6	222
Other Health Impaired							7	8		15	30
Learning Disabled	7	3	5			2	16	147		148	328
Total for All Handicaps	80	143	16	189	35	53	632	749	19	1580	3496

Source: Field Support Section, Division of Vocational Education, North Carolina State Department of Public Instruction.

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The 3,496 handicapped students were served in 76 participating school systems. The average number of students served per participating school system was 46, and the number served ranged from a minimum of one student to a maximum of 184 students.

During the school year 1976-77, 11,538 disadvantaged students were served in vocational education programs. Table 19 provides cross tabulations of this enrollment by program area and type of disadvantagement. The majority of disadvantaged students served were educationally disadvantaged (55%). Other categories served, in terms of their percentage of disadvantaged students served, were: socio-economic (23%), cultural (15%), and dropout (6%).

In terms of program area in which disadvantaged students were served, the largest number were enrolled in Trade and Industrial (40%) and Special Programs (25%). In the regular skill training program areas, 7,261 or 63% of the disadvantaged students were enrolled; the majority of these students were enrolled in Trade and Industrial Education (63%). Of those students enrolled in regular skill training programs, 1,651 or 23% were enrolled in cooperative education courses, including Cooperative Distributive Education, Industrial Cooperative Training, Cooperative Office Occupations and Agricultural Coop.

The 11,538 disadvantaged students were served in 125 participating school systems. The average number of students served per participating school system was 92; the number served ranged from a minimum of one student to a maximum of 1,182 students.

These enrollment figures indicate that strides have been made to serve special needs students in vocational programs in North Carolina. Still, much remains to be done. Management Information System data indicated that only 125 systems were serving disadvantaged students in vocational education while only 76 systems were serving handicapped students in vocational education. Further, the number of handicapped students served in 1976-77 is only four less than the number projected to be served in 1978-79, as presented in the data of the draft of the FY 79 State Plan. Even more

Table 19

1976-1977 SECONDARY DISADVANTAGED ENROLLMENT IN VOCATIONAL EDUCATION

Number of Disadvantaged Students Served in Vocational Education in North Carolina, School Year 1976-77, by Program Area and Type of Disadvantagement

	Agriculture	Distributive Education	Health Occupations	Consumer and Homemaking Education	Occupational Home Economics	Business Office Education	Trade and Industrial Education	Pre-Vocational	Industrial Arts	Special Programs	Total for All Programs
Socio-Economic	396	144	8	9	116	13	937	296		766	2685
Cultural	234	85		13	54	12	590	203		496	1687
Educational	1120	258	34	22	104	10	2844	804	6	1179	6381
Dropout	22	12	1	6	4		194	52		380	671
Unknown	8	10			10	1	40	5		40	114
Total for All Disadvantaged	1780	509	43	50	288	36	4605	1360	6	2861	11538

Source: Field Support Section, Division of Vocational Education, North Carolina State Department of Public Instruction

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critical is the question of whether this effort complies with recent legislation that requires the provision of a free and appropriate public education for all students. As previously noted, the universe of need for vocational disadvantaged and handicapped students has not been specified in North Carolina. While the "child find" activities of the State Departments of Human Resources and Public Instruction will assist in this effort, these surveys produce only figures on the handicapped. However, even these figures reveal the gap between those served and those who remain to be served.

For example, as the information in Table 20 indicates, there are an estimated 54,180 handicapped individuals in North Carolina. Handicapped in this context refers to the State's adaptation of definition provided in the Federal Guidelines (National Center for Health Statistics, 1973) which includes those individuals classified as hearing impaired, speech impaired, visually impaired, physically impaired, emotionally disturbed, learning disabled, mentally handicapped, and multi-handicapped. There are many other individuals that are also included in the special needs estimates, but they are categorized as other than handicapped, as handicapped is defined in the occupational education context.

Table 20

ESTIMATED NUMBER OF HANDICAPPED
INDIVIDUALS IN NORTH CAROLINA,
AGE 14-21, BY HANDICAPPING CONDITION

Handicapping Condition	Number
Hearing Impaired	1,548
Speech Impaired	9,288
Visually Impaired	1,548
Physically Handicapped	1,548
Emotionally Disturbed	5,418
Learning Disabled	15,480
Mentally Handicapped	17,028
Multi-Handicapped	2,322
	54,180

The table also includes estimates of individuals by handicapping condition. The estimates were derived by taking the total estimated number of primary special needs individuals in the State (274,000) and dividing it into the estimated number of individuals in the State by handicapping condition (N.C. Department of Public Instruction and Human Resources, 1975). This yielded the percentage that each handicapping condition contributed to the total number of primary special needs individuals in the State. To arrive at the total number of handicapped individuals in the State in the 14-21 year age group and a breakdown of handicapping conditions, it was necessary to multiply the percentages derived for each handicapping condition by the estimated total number of individuals with special needs in the 14-21 year age group (77,400). As the table indicates, Learning Disabled and Mentally Handicapped account for 32,508 or 60% of the total 54,180 handicapped individuals in the State of North Carolina.

Although there is an estimated total of 54,180 individuals in the 14-21 year age group in the State that are classified as handicapped, there was only a total of approximately 3,500 handicapped secondary occupational education enrollment for 1975, 1976 or 1977. This leaves approximately 50,000 handicapped, secondary level students unserved by an occupational education program. The estimate is an over-statement to some degree, since the age range extends above typical age ranges of secondary level students, but it does serve to point out the discrepancy between those served and those eligible to be served.

The types of programs in which special needs students were served was also a consideration within the topic of program operations. National studies of vocational education for disadvantaged (1976) and handicapped (1974) students, conducted by the Olympus Research Corporation, revealed that many programs served special needs students in special programs rather than mainstreaming such students. Survey data revealed that this is not necessarily the situation in North Carolina. Administrators were asked to indicate the number of program areas which serve disadvantaged and handicapped students as grouped according to the following service categories:

a) Regular--special needs students fully integrated in regular classes with no special services or curriculum;

b) Regular with Support Services--special needs students served in regular classes with a range of special added services such as counseling and tutoring;

c) Modified--specialized curriculum only for special needs students; and

d) Special--separate courses/facilities for special needs students only, perhaps including curriculum and support services.

Findings revealed that while a sizable number of students were served in such special programs (see Tables 18 and 19), it may no longer be the preferred approach to serving special needs students. Strides have been made to meet the needs of disadvantaged and handicapped students in regular classrooms, especially those with appropriate additional services. In terms of the disadvantaged, 65 of the responding LEA's offered services in 215 program areas through a combination of enrollment in regular classrooms with additional support services. Forty-five LEA's offered 187 program areas to vocational education disadvantaged students in regular classrooms. Lesser numbers of systems and program areas offered modified or special programs.

Similar findings were revealed for vocational education for handicapped secondary students. Thirty-eight of the responding LEA's offered 132 program areas through enrollment in regular classrooms with additional appropriate support services. Thirty LEA's offered a total of 84 program areas strictly within the confines of the regular classroom. Modified and special programs were offered in 30 school systems involving 47 program areas. This means: (a) that efforts are being made to mainstream students; (b) that relatively more success has been achieved in adapting curriculum for disadvantaged than for handicapped students; and (c) that in terms of percentage, more handicapped students remain in special programs than do disadvantaged students.

At the post secondary level similar patterns of enrollment were found. Again the preferred service delivery categories were regular programs and regular programs with support services with approximately 300 programs offered in each category to each special needs population. However, proportionately, there has not been as great an effort at the post secondary level to serve students with specialized curriculum or to serve students in ways other than in special programs. Again, the percentage of offerings in each of these delivery categories is similar. For example, approximately 50 areas were offered through the special program category to both disadvantaged and handicapped students. Similarly, only 7% of the program areas for handicapped and 8% of the program areas for the disadvantaged were addressed through a modified curriculum.

The Division of Vocational Education, in an effort to assist LEA's to meet the needs of special needs students, had employed a Chief Consultant for Disadvantaged and Handicapped. Among the many activities undertaken through the position of Chief Consultant have been summer conferences and workshops, staff development, student identification procedures, student assessment assistance, clarification of guidelines and compliance regulations, informal communication with other agencies, planning assistance, clarification of target population definition and administrator role, and curriculum development. Survey and site visit data revealed that these initiatives have been necessary, effective and well-received by field-based personnel. Unfortunately, this position has been recently vacated, without firm plans to refill it. While a temporary vacancy could be positive because it would force program area chief consultants to assume responsibilities and acquire additional knowledge about special needs populations, a sustained vacancy or termination of the position could lead to an increasing fragmentation of effort and to a de-emphasis of concern/ activity to assist in successfully serving special needs students.

Among the activities undertaken by SDPI through the Vocational Chief Consultant for Disadvantaged and Handicapped were efforts directed toward clarifying operational definitions of special needs populations. Survey data revealed that such programs have been successful. The vast majority

of local planners and directors are using the federally promulgated definitions of disadvantaged and handicapped vocational education students. Further, data suggested that understanding and use of accepted definitions is traceable to documents produced and disseminated by the Division of Vocational Education; over 95% of reporting administrators used these documents.

A small percentage of programs, approximately 10% of those surveyed, were using non-standard or modified definitions of students. The typical modified definition for handicapped students was a more narrow definition, usually excluding all but educable mentally retarded students. The typical modified definition for disadvantaged students usually focused on behavioral problems and/or lack of reading skills.

At the post secondary level, the question of definition and identification of students is not as clear. Less than 50% of the responding programs indicated that they used the standard definition to identify disadvantaged or handicapped students and more than 10% either failed to provide their definition or indicated they did not regularly use any definition. In general, at the post secondary level, definitions did concentrate on individual identification of students, but few definitions attended to the "inability-to-succeed" clause.

The most frequent response at the secondary level was a "modified" definition with over 50% of the respondents indicating that these definitions were standard practice within their institutions. Definitions for the disadvantaged included identifiers such as non-readers, underprivileged/deprived, drop-outs, unemployed and non-functional adults. The most prevalent definitions for identifying disadvantaged students were economic difficulties and the definitions used by the agency that refers the students.

The definition for handicapped students included such identifiers as non-functional adults, definitions in the Vocational Rehabilitation Act, persons with a restricted activity range and persons requiring special services. The most frequently cited identifiers included definitions used by

the certifying or referring agency, physically handicapped students, mentally retarded students and non-functional students.

The physically handicapped student was a particular concern at the post secondary level. Structural modifications was one of the most critical needs cited in the prioritization of needs by post secondary directors; lack of appropriate equipment, adequate facilities and safe work areas were the first, fifth and sixth most critical barriers to serving the handicapped at the secondary level. Further, in the section on funding under the estimates of additional need, facility remodeling for the handicapped was the most costly item at an estimated $120,000 per post secondary institution. The question of adequacy of facilities for the physically handicapped was not formally addressed during the study. However, the tangential evidence cited above, in addition to random discussions initiated with local post secondary directors and instructors, indicated that it is a concern that must be addressed. The discussions, held midway through the project, revealed, for example, that directors often had not considered moving programs, as opposed to installing elevators, in order to achieve accessibility. In addition, many secondary and post secondary educators are confused about which items must be made accessible and how to determine local need. The question of ramps and elevators has been assumed, but the questions of parking facilities, walks/gradients, hazards and equipment (water fountains, telephones, light switches, warning signals) remain problem areas. It is noted that the concern for money to modify facilities was much greater at the post secondary than secondary level.

Access issues are but one of the day-to-day problems that must be addressed by local directors and instructors in serving disadvantaged and handicapped students in vocational education.

The Teacher Questionnaire for the 1977 Summer Conference for Special Needs Vocational Education Teachers revealed additional day-to-day operational concerns of teachers. Twenty-three concerns were ranked on a five-point scale, from inadequate (1.0) to adequate (5.0). While no item achieved a score of less than 3.0, several concerns scored in the range of 3.0 to 3.5 and should be topics of concern. These items included:

1) Access to appropriate college/university courses of study.

2) Program coordination and/or involvement with other special education programs.

3) Program coordination with vocational rehabilitation (handicapped only).

4) Provision for appropriate in-service by LEA.

5) Availability of evaluative techniques and instruments for measuring student progress.

6) The extent to which "a full range of educational services" are provided to the special needs students in my school(s).

7) Involvement of my special needs students in occupational youth organizations.

8) Community support from business, industry, etc.

9) Facilities housing my program.

10) Instructional materials appropriate for my students (films, filmstrips, LAPs, etc.).

Day-to-day operational problems were also addressed through the survey questionnaire at the secondary level. Local directors/planners were asked to indicate, on a four-point scale from great difficulty to no difficulty, how much trouble each of 20 items created in programs for which they had responsibility. Table 21 depicts the findings for all secondary schools and by system size related to this question. As noted in the table, the most pressing operational problems were those of securing appropriate curricular materials for the handicapped, while securing curricular materials for the disadvantaged was the third most pressing problem. Perhaps this helps to explain why the aforementioned "modified" service delivery category was not more widely utilized. Concern for curricular materials for the handicapped substantiates the findings presented in the barrier section and indicates that the need for appropriate materials is critical. It is noted that SDPI recently prepared and disseminated a guide, "Instructional Components for Students with Special Needs in Vocational Education." This is an excellent initial step, but much remains to be done. It is noted that at the post secondary level, concerns for curriculi focus on the desire for open-entry/open-exit, task-based, individualized materials for special needs students.

Table 21

DAY-TO-DAY PROGRAMMATIC DIFFICULTIES

AREA OF POTENTIAL DIFFICULTY	DEGREE OF DIFFICULTY BY SYSTEM			
	Small (N=29)	Medium (N=39)	Large (N=36)	Total (N=104)
1. Definition of Handicapped	3.03	3.10	2.77	2.97
2. Definition of Disadvantaged	2.59	2.61	2.74	2.65
3. Guidelines concerning Handicapped	2.59	2.62	2.49	2.56
4. Guidelines concerning Disadvantaged	2.38	2.31+	2.75	2.48
5. Reporting Procedures for Handicapped	2.55	2.82	2.34	2.58
6. Reporting Procedures for Disadvantaged	2.45	2.64	2.61	2.58
7. Coordination with Special Education	2.76	2.95	2.86	2.87
8. Coordination with Agencies other than Special Education	2.62	2.82	2.72	2.73
9. Securing State Funds for the Handicapped	2.86	2.92	3.09	2.92
10. Securing Local Funds for the Handicapped	2.31+	2.77	2.63	2.59
11. Securing State Funds for the Disadvantaged	3.00	3.13	3.44	3.20
12. Securing Local Funds for the Disadvantaged	2.31+	2.74	2.89	2.62
13. State Funding Requirements for the Handicapped	2.62	2.92	2.54	2.71
14. State Funding Requirements for the Disadvantaged	2.79	2.63	2.39	2.59
15. Identification Process for Handicapped	2.66	2.64	2.46	2.58
16. Identification Process for Disadvantaged	2.31	2.18#	2.46	2.29
17. Securing Curricular Materials for Handicapped	2.17*	2.41	2.00*	2.20*
18. Securing Curricular Materials for Disadvantaged	2.28#	2.18#	2.34	2.26+
19. Service Delivery Involvement of Teachers and Counselors for Handicapped	2.45	2.31	2.14#	2.29
20. Service Delivery Involvement of Teachers and Counselors for Disadvantaged	2.34	2.15*	2.26+	2.24#

* Most difficult area
\# Second most difficult area
\+ Third most difficult area

Great difficulty = 1
No difficulty = 4

The second and fourth most critical day-to-day problems were the service delivery involvement of teachers and counselors for disadvantaged and handicapped students, respectively. The service delivery involvement difficulty was further specified during the site visits. Among the particular problems mentioned were the reluctance of teachers to accept special needs students in their classes, the preference of guidance personnel to work with college-bound students, the general uninformed nature of school personnel about the vocational program and student dropout problems. For example, several local directors indicated that some teachers simply "refused admission" of handicapped students to their class. Teacher reasoning was too often based on the assumption that handicapped meant "mentally retarded" which, in turn, either meant more work or discipline problems. There was also a general reluctance to readmit students who had been identified as disadvantaged or handicapped, had been served elsewhere, and were now being readmitted.

Difficulties involving guidance personnel were twofold. First, there was a suspicion that most guidance persons either preferred to work with other students or, in general, did not spend much time with vocational or vocational special needs students. Second, the general impression was that counselors were neither well-informed about the vocational program, including efforts to serve special needs students, nor were most counselors specially trained to work with special needs students. Site visit findings from interviews with counselors substantiated most of these generalizations. For example, data revealed that counselors did feel uninformed about and somewhat unqualified to assist the vocational effort to serve special needs students. Further, they indicated that relatively little time was spent with such students and that specialized counseling services for disadvantaged and handicapped were a rarity. Specialized training and better communication/public relations were needed to remedy the situation.

The fifth most critical day-to-day problem was the identification procedures for disadvantaged students. As noted earlier, most LEA 's are employing the standard definitions and using state documents in addressing the task. Still, identification remains a concern, implying that perhaps the definitions need to be altered.

Student involvement was also a concern. Dropout rates, even in the exemplary programs, ranged between 30% and 50% and were a concern of local directors. Unfortunately, statewide rates for special populations were not derived because the information was not contained in MIS and the State Data Plan Committee would not permit outcome data to be collected.

In general, the other critical day-to-day difficulties, other than matching funds, involved questions of information or information coupled with technical assistance. For example, local directors indicated a need for:

a) concise, readable explanations of their legal obligations concerning special needs students under recent federal and state legislation;

b) information on funding and service sources, funding uses and commingling options;

c) information on funding and service timetables within related legislation;

d) information on accessing and involving community resources and the resources of other agencies;

e) information and technical assistance in performing local needs assessments;

f) information and technical assistance on program evaluation and review;

g) information and technical assistance on developing program followup; and

h) information and technical assistance on working with and involving parents in program activities.

Many of these information needs include involvement of the larger community in the provision of services to special needs students. One of the characteristics shared by programs which were considered to be exemplary was a relatively higher degree of community involvement including frequent and structured interactions with parents, civic clubs/organizations and other agencies involved in providing vocationally related skills to the target populations. In such communities, the image of vocational education was good and the public understood and assisted with the program. Survey

data presented in the issue of coordination and cooperation suggest that such public involvement is not the rule. Information derived from the State Advisory Council's 1977 Forum suggests that public understanding, with regard to efforts designed to serve special needs students, is not the rule either. For example, approximately 25% of the respondents to the Forum questionnaire indicated that they did not know if the special vocational needs of handicapped students and disadvantaged students were being met. Further, 30.1% of the respondents did not know if vocational education programs for disadvantaged or handicapped students prepared students for meaningful jobs. The responses indicate a lack of communication between vocational educators and the public.

The site visitation portion of the Program Assessment permitted project staff to generate a series of general characteristics that were shared by most of those programs that were nominated as exemplary. Table 22, Characteristics of An Effective Program, is a compilation of these items. These characteristics could be used to develop materials and procedures for a state-wide programmatic effort.

Table 22

CHARACTERISTICS OF EFFECTIVE PROGRAMS

Exemplary programs exhibited the following characteristics:

1. Characteristic: Formal statements of program purposes, goals and objectives:

   a) purposes--justified reasons for undertaking the program;
   b) goals--expected program outcomes and advantages; and
   c) objectives--measurable expectations of accomplishment specified for both administrative and outcome activities.

2. Characteristic: High degree of community involvement:

   a) work with employers to provide training slots and fill available jobs--such work often was public relations work and involved social and business visits;
   b) involved parent volunteers in program;
   c) involved working with civic groups and organizations;
   d) provided and gathered feedback from community on program activities and outcomes;
   e) utilized the media, the employment services and so forth, both to build image of the program and to secure needed resources;
   f) more extensive use of advisory and craft committees;
   g) articulation with appropriate alternative education agency (either LEA or CC/TI) in geographic area; and
   h) a sense of "we-ness" within the program ... which extends over into the community.

3. Characteristic: A conceptual framework or rationale that matches needs of the target population with components in the program and which justifies such procedures based on theory or empirical evidence.

4. Characteristic: Use of alternative funding sources and coordination with other agencies with responsibilities for providing vocationally related services.

5. Characteristic: Special support services for special needs populations, ranging from a vocational counselor to tutoring services.

6. Characteristic: Concern for appropriate identification and diagnosis of the target population including formalized procedures, a variety of standard measures and student/parent involvement. In addition, these programs paid relatively more attention to program evaluation.

7. Characteristic: Relatively higher degree of personal involvement of the director/planner as a program person rather than functioning solely as an administrator.

8. Characteristic: Higher rates of interaction with state and region SDPI personnel as well as more frequent contact with central office personnel within own system.

9. Characteristic: Clarification of expectations and involvement of all school personnel (academic teachers and counselors) in the program through preparation and dissemination of written material and through staff meetings.

10) Characteristic: Concern for a coordinated pre-vocational and appropriate (often remedial) academic component in conjunction with the skill training component.

Recommendations

Several recommendations, based on study findings and conclusions, are offered for consideration of the State Advisory Council on Vocational Education. In general, these recommendations synthesize findings across topics and are therefore grouped within the broader categories of (a) programming, (b) coordination, (c) policy and (d) suggested studies. No priority is offered concerning the urgency of any recommendation; several, however, are believed to have potential to create advantageous adjustments within the state systems of public education. The focus, of course is vocational education.

A. PROGRAMMING

There are a number of areas to which recommendations are addressed under the heading of "programming." These areas include: (1) provision of services; (2) funding; (3) in-service staff development; (4) planning; (5) provision of information; and (6) specific needs.

The most fundamental recommendation regarding programming is that the issue of vocational education for special needs populations should be addressed more systematically within SDPI and CC/TI. Both agencies can benefit from services of specialists to work in the area and both need to develop comprehensive plans/programs to meet the needs of these students.

1. Provision of Services

Recommendation: Consideration should be given to mandating that state educational agencies develop program guides for each of the separate divisions and agencies with responsibility for providing vocational education to special needs students. Such program guides would clearly state mission. goals, performance expectations, curriculum, certification requirements, expected outcomes, and the use of funds for their respective agencies. Further, the guides would be written in language to make them clearly understandable and compatible with other division and state agencies with responsibility for providing vocationally related education to special needs students.

Recommendation: The State Board of Education should give consideration to promulgating a client centered orientation in the

provision of vocationally related services to special needs students. Of particular concern are the outcome indicators of such a client centered orientation. In particular it is recommended that a case closure method of evaluation be developed which would, of necessity, include appropriate referral and the coordinated provision of services among related agencies.

2. Funding

Recommendation: Consideration should be given to the following matters with regard to funding:

a) Elimination or alteration of the matching requirements for vocational funds for handicapped students in order that monies allocated to local units be 100% monies;

b) Investigation of and action upon the commingling of funds in order to provide more comprehensive service and in order to prevent the "necessity" of turn-in monies;

c) Development of a two-year funding cycle option that would permit longer range planning committments and continuity in the provision of services.

3. In-Service Staff Development

Recommendation: Appropriate staff development must be provided at all levels for vocational educators who must work with and interact with all special needs children. This includes not only local level instructors, but also local level administrators and state level staff personnel, particularly in the programming areas of vocational education. Among techniques and procedures that deserve consideration are:

a) Individualized in-service teacher and administrator modules on planning, developing curriculum, working with parents, effective instructional strategies and evaluation;

b) Summer administrator workshops geared especially to developing competencies in program planning, evaluation, and accessing/ coordinating community resources;

c) Catalogues or directories of persons whose time/expertise can be purchased to provide in-service training or assistance to personnel on various related issues;

c) Designation of certain districts as training centers for either certain competencies or certain categories of disadvantagement and handicap in order to provide more field-based assistance.

4. Planning

Recommendation: Consideration should be given to developing a state planning system for education which can be adapted by and used by all divisions under the auspices of the State Board of Education. Such a system would address the provision of services to all students, including special needs students. Of necessity, such a system would provide for information on student needs, community needs, employer needs, available resources, programmatic needs, program outcomes and program evaluation. In order to initiate such planning, there must be a distinction between long-range and short-range planning; there must be an opportunity to upgrade administrator skills in order for them to use the system; and the roles of various agencies involved in providing vocationally related services to student must be clarified.

Most importantly, he Management Information System will require expansion. The expanded system would include not only compliance data, but also planning and evaluation information. Further, the system would have to be structured in a way to provide: (a) easy access to the data and (b) assistance in using and interpreting the information for planning purposes.

5. Provision of Information

Recommendation: Consideration should be given to developing a monthly newsletter concerning vocational education for special needs students for all public educational institutions in North Carolina. Such a newsletter should provide concise, readable information on legal requirements concerning service, successful programs in other districts, planning information, SEA activities, funding cycles, reporting procedures, evaluation assistance, curricular development and so forth. Additionally, consideration should be given to developing a timetable for vocational education that contains all pertinent legal, funding and service requirements under existing law.

Recommendation: Consideration should be given to developing a directory of resources for local program directors that explains the mission, the requirements, the regulations and so forth, concerning the various agencies that have responsibilities for providing vocational and related services to the target populations. In addition, this directory should contain information on how to coordinate vocational programs with these various agencies and an update of the legal qualifications of such cooperation.

6. Specific Needs

Recommendation: Consideration should be given to each of the following items not covered in other recommendations:

a) Development/evaluation and dissemination of vocational curricular materials, including individualized remedial materials, for special needs students at secondary and post secondary levels;
b) Placement and follow-up systems at secondary and post secondary levels;
c) More systematic programmatic effort for special needs students at secondary and post secondary levels (includes identification, definition, diagnosis, prescription and so forth, at the post secondary level);
d) Task analysis and cluster task analysis of jobs and training programs at secondary and post secondary levels;
e) Concentration on program evaluation;
f) Models and materials to access and involve the community in the service delivery system for special needs students at secondary and post secondary levels;
g) Parent interaction and involvement materials at the secondary level;
h) Assistance in addressing structural modification questions at the post secondary level; and
i) Activities to increase overall public and school awareness of the need for opportunity to serve special needs students in vocational education.

B. COORDINATION

Recommendation: Consideration should be given to creating a position of liaison between the Divisions of Vocational Education and Special Education within the State Department of Public Instruction to coordinate the activities of the two divisions in the vocational planning and program implementation for special needs students. This position should be funded jointly by the two divisions. Products emanating from the position should include program redefinition, dissemination of information to LEA's that explains how to access and coordinate services between the agencies, legal information to LEA's that explains responsibilities under the various laws, development of curricular materials, and assistance with funding issues.

Recommendation: Consideration should be given to developing a position of Coordinator For Special Services. Position responsibilities would include: (a) increasing relations between divisions within SDPI regarding vocationally related services to special needs populations and (b) liaison between the State Department of Public Instruction and other external agencies with responsibilities for providing vocationally related services to special needs persons. Such agencies include the Department of Community Colleges and Technical Institutes, the Department of Vocational Rehabilitation, the Comprehensive Employment Training Act persons within the Department of Labor, and other related agencies. The person filling this position would be responsible for providing both compliance and programmatic assistance to agencies and institutions in North Carolina.

C. POLICY

Findings support the need for at least the following:

Recommendation: Consideration should be given to developing a formal statement of policy on the provision of vocational education and related services to special needs populations. This statement should set forth: (a) required coordination/cooperation; (b) time frames; (c) funding constraints; (d) definition of agency and division responsibility; (e) service/program priorities and emphases; (f) administration objectives; and (g) expected outcomes.

Recommendation: Consideration should be given to developing and implementing a statewide policy on the dissemination, use, and confidentiality of student records and student accounting information in order to facilitate case closure type method of individual diagnosis and prescription.

Recommendation: Consideration should be given to developing a generic list of program components and definitions for use in developing vocationally related educational services for special needs students.

Recommendation: Consideration should be given to developing, encouraging and providing incentives to educational agencies to bring all special needs into the mainstream of activities. Such mainstreaming includes not only equal access, but treating students on an individual basis, providing appropriate curriculum, serving as advocates, clarifying publicly-held misconceptions, providing appropriate diagnosis and prescription, involving students in extracurricular activities and providing for community placement and follow-up.

Recommendation: Consideration should be given to using the issue of providing services to the handicapped as a means of "mainstreaming" vocational education in schools as well as "mainstreaming" schools in communities.

D. SUGGESTED STUDIES

Findings support the need for the following studies:

Recommendation: Consideration should be given to conducting accessibility studies of facilities at the secondary and post secondary levels to determine true cost estimates of making such facilities accessible to all students. Among the areas that deserve consideration are: parking accessibility; walks, ramps, gradients, and hazards; building entrances, doorways, floors, fountains, toilets, telephones and controls; and stairs and elevators. Information must be compared with Federal guidelines and realistic estimates of cost should be derived.

Recommendation: Consideration should be given to conducting a study to identify and prioritize the specific in-service and pre-service training

needs of existing vocational educators with regard to serving special needs populations. This study should address not only active teachers' needs but also course content at the institutions of higher education that are charged with providing such education. Results would specify the need for certain kinds of competencies and identify where and how those competencies might be taught.

Recommendation: Consideration should be given to conducting a study to clarify how funds for various agencies and divisions could be commingled in the provision of vocationally related education to special needs students.

Recommendation: Consideration should be given to developing and disseminating a quick, effective local needs assessment procedure for CC/TI vocational directors to use in addressing the needs of special needs students. This is particularly critical at the post secondary level because of the highly autonomous nature of these institutions.

Recommendation: Consideration should be given to developing task analysis and task cluster analysis inventories for vocational/occupational/ techni programs offered in North Carolina, particularly at the post secondary level. Such analysis would help match skills and abilities to training.

Recommendation: Consideration should be given to investigating and developing effective parent, business and community involvement materials for local vocational instructors and administrators to use, particularly with regard to special needs student.

Recommendation: Consideration should be given to investigating the true costs of successfully serving special needs vocational students. Such a study would indicate particularly successful program managements as well as quantify additional funds needs to meet the vocational needs of special needs students.